AMERICAN
PSYCHOLOGY
SERIES

University of Florida Libraries

COLLEGE LIBRARY

Digitized by the Internet Archive
in 2010 with funding from
Lyrasis Members and Sloan Foundation

http://www.archive.org/details/practiceofclinic00port

AMERICAN PSYCHOLOGY SERIES

HENRY E. GARRETT, GENERAL EDITOR

AMERICAN PSYCHOLOGY SERIES

PSYCHOLOGICAL DIAGNOSIS IN SOCIAL ADJUSTMENT
By PERCIVAL M. SYMONDS

THE PSYCHOLOGY OF THE AUDIENCE
By H. L. HOLLINGWORTH

PSYCHOLOGICAL FOUNDATIONS OF EDUCATION
By J. STANLEY GRAY

FEELING AND EMOTION: A HISTORY OF THEORIES
By H. M. GARDINER
RUTH CLARK METCALF
and
JOHN G. BEEBE-CENTER

THE ORGANISM
By KURT GOLDSTEIN

MENTAL HYGIENE: A MANUAL FOR TEACHERS
By J. D. M. GRIFFIN
S. R. LAYCOCK
and
W. LINE

THE PRACTICE OF CLINICAL PSYCHOLOGY
By STANLEY D. PORTEUS

THE PRACTICE OF CLINICAL PSYCHOLOGY

By

STANLEY D. PORTEUS

Psychological Clinic
University of Hawaii, Honolulu

With the assistance of

MARY HUNTER and COLIN J. HERRICK

AMERICAN BOOK COMPANY

New York *Cincinnati* *Chicago*
Boston *Atlanta* *Dallas* *San Francisco*

COPYRIGHT, 1941, BY
AMERICAN BOOK COMPANY

All rights reserved

NO PART OF THIS BOOK MAY BE REPRODUCED IN ANY FORM WITHOUT WRITTEN PERMISSION OF THE PUBLISHER.

E. P. 1

PORTEUS, PRACTICE OF CLINICAL PSYCHOLOGY

MADE IN U. S. A.

FOREWORD

This book does not attempt to report all the significant work that has been done in its field of reference, but only to epitomize my actual practice in clinical psychology. A number of significant studies and some important clinical techniques may have been omitted; but those selected for discussion and criticism are known from personal application. Hence what this text may lack in width of reference it gains through firsthand knowledge. It has a practical rather than a scholarly aim.

A long period spent in the psychological examination of subjects, ranging from gifted members of the white race to the Australian aborigines and the African Bushmen, has established in my mind some very definite opinions regarding the value of certain approaches to the study of the human personality. These opinions, however, though expressed with some degree of authority, avoid, I hope, any air of dogmatism. They must be interpreted merely as one man's experience, which of course may differ from that of others in the field.

The inclusion of certain material, notably the chapter on the biological basis of clinical psychology, may seem to some to be of questionable value, but the hypotheses contained therein have been essential to my own thinking.

The late Dr. Mary Hunter wrote part of the chapter on the examination of young children and the section that deals with the Rorschach test. Her untimely death prevented her further participation in this project.

Dr. Colin J. Herrick kindly contributed Chapter XVII (excluding the appendix), which deals with the diagnosis of reading disabilities. This collaboration is gratefully appreciated.

Acknowledgment is due to Dr. Charles H. Honzik, who read the manuscript and made a number of suggestions. An even greater obligation is owing to Dr. Henry E. Garrett, the editor of the series in which this book is published, for important constructive criticisms.

Thanks are due also to Mrs. Lillie Forrest, who not only typed the manuscript but gave other invaluable clerical assistance.

The book represents, in the main, one man's experience but not one man's work. Many discussions of points of clinical practice among present and past members of the staff of the Hawaiian clinic have contributed to the contents. The greatest debt, however, is really owing to the children and adults who have served as subjects of individual study during the course of my twenty-seven years of apprenticeship to clinical psychology.

STANLEY D. PORTEUS

CONTENTS

CHAPTER		PAGE
I.	The Role of the Clinical Psychologist	1
II.	Survey of Clinical Problems and Methods	25
III.	Biological Basis of Clinical Psychology	55
IV.	The Nature of Intelligence	87
V.	The Binet Scale: Old and New	111
VI.	Performance Tests as Diagnostic Measures	139
VII.	Measures of Social Capacity and Personality	164
VIII.	Special Supplementary Tests	198
IX.	The Feeble-minded Child	228
	Appendix: Educational Attainment Scale	249
X.	Abnormal Children	256
XI.	Some Specific Clinical Problems	279
XII.	Predisposing Conditions in Delinquency	300
XIII.	Delinquent Personality and Treatment	324
XIV.	The Criminal	353
XV.	Examination of Young Children	377
XVI.	The Dull and Backward Child	403
XVII.	Diagnosis of Reading Disabilities	421
	Appendix: Learning Gradients	440
XVIII.	Psychoanalysis and Psychology	460

CHAPTER PAGE

XIX. PSYCHOLOGICAL ANALYSIS 484

XX. VOCATIONAL GUIDANCE 508

Appendix: Nurses' Social Rating Scale . . 529

XXI. CLINICAL SERVICE AND RELATIONSHIPS . . 538

INDEX 563

THE PRACTICE OF
CLINICAL PSYCHOLOGY

CHAPTER I

The Role of the Clinical Psychologist

Introduction: The Use of the Word *Clinical.* Until common usage had brought about the acceptance of the term *clinical psychology,* it represented, at least as far as the descriptive adjective was concerned, a somewhat clumsy borrowing from medical practice. A clinical examination was one conducted at the bedside of the patient; but according to its derivation (from the Greek Κλινικός, "pertaining to a bed"), the term need not be restricted to its medical use. There could, for example, be clinical baptism, and prayers might even be called clinical petitions.

However, like many another word, *clinical* suffered a change, even medically, so that from being at first limited to an examination made in a sickroom, it was extended to include any demonstration or diagnosis with the patient present. This extension opened the way for a still wider application. Though psychologists do not deal with sick people nor operate at bedsides, they were called upon to diagnose mental conditions by means of an examination technique, the methods of which could usefully be called clinical.

As applied to psychologists, *clinical* serves to designate one type or division, of which there are several in the profession. Experimental psychologists, for example, are rarely psychoclinicians. They use laboratory methods to formulate the laws of learning and to measure the ordi-

nary span of memory and attention or the reaction time of response to various kinds of stimuli. Many of their experiments may enter the physiological sphere, as, for example, when they seek with the so-called "lie detector" to measure or observe the physical correlates of emotion. But in his search for commonly valid generalizations about behavior of human beings, the experimental psychologist does not concern himself particularly with individual deviations, except in so far as they affect his general results. If in his experiments he finds an individual whose memory span, let us say, is markedly inferior, he does not pause to consider what effects, if any, this deficiency may have on the educational adjustments of such a person. Or if in his work of setting up a conditioned reflex—that is, of transferring a response to an associated stimulus—he finds an individual who shows a strong inner resistance to the conditioning process, he rarely attempts to discover the underlying reasons for this resistance and its probable effect on the subject's social behavior. That is the business of the clinical psychologist.

But in order to recognize deviations, the norms must first be known. Hence experimental psychology, by which the norms are established, provides the scientific basis for clinical psychology. In short, the practice of clinical psychology involves the application of experimental principles to individual treatment.

Clinical and Social Psychology. To make the role of the mental clinician clearer, we may contrast his field of interest with that of the social psychologist. The task of the latter is to describe, analyze, and interpret the behavior of individuals in groups or in social activities. He is only incidentally concerned with the person who

is asocial or antisocial in his trends, and he has no special interest in the individual to whom the reactions of the crowd serve merely as negative suggestions, or in the man who would rather swim against than with the currents of convention. But he is interested, among other things, in the various ways by which society has sought to regulate man's pursuit of the primary needs of sex, subsistence, social relationships; in other terms, he is interested in man's reactions under the fundamental drives for mastery, social approval, organic satisfactions, security, affection, and new experiences. But the social psychologist is not primarily concerned with the "disintegrated personality" in whom these drives are in conflict, or in the individual in whom one or more of these drives may be inadequate, or in the social delinquent in whom some of these tendencies may be abnormally strong. The study and treatment of these deviates he leaves to the clinical practitioner.

Mental and Social Deviations. We might go on differentiating the fields of work of other psychologists—educational, industrial, and the like. But in each case there is no particular or primary interest in the individual who deviates from the norms of educational or industrial performance. The clinical psychologist, on the other hand, attempts to measure these deviations and to relate them to deficiencies in the individual's emotional control, degree of intelligence, temperamental qualities, or inadequacies in what is somewhat loosely called *personality*.

When these deviations of behavior or constitution become sufficiently gross, then society, as well as the mental clinician, takes cognizance of them and regards them as criminal, delinquent, or defective traits. But it must not be supposed that the clinical psychologist is con-

cerned only with these gross deviations. As a matter of fact, no rigid line of demarcation can be drawn separating individuals possessing these traits from the rest of us. There are all kinds and degrees of minor maladjustments or differences from the norm, so that there may be no single reason for social inefficiency. The ship may fill and founder because of some large rent in the hull, or because of a large number of minor leakages. The factors in human failures may be positive as well as negative. Thus there are the self-willed and the poorly inhibited; the educationally retarded or the overprecocious; the wayward and incorrigible, as well as the too suggestible; the emotionally dull and apathetic and the extremely excitable; the mentally lazy and the mentally overactive. All these unbalanced personalities may come within the purview of the clinical psychologist.

The frequency and importance of these deviations from the normal average of behavior and capacity may be judged from the richness of our vocabulary of descriptive terms for these conditions. It would not be difficult to fill many pages with adjectives applicable to peculiarities of human constitution and conduct.

Two psychologists [1] have recently issued a monograph which contains an exhaustive study of 400,000 words in *Webster's International Dictionary* from the point of view of their application to personality or personal behavior. They found no less than 17,953 descriptive words applicable in this sense. Yet, not content with the established terms, people are quick to invent and adopt such new ones as *pixillated,* which may have useful shades of meaning of their own.

[1] Allport, G. W., and Odbert, H. S., "Trait-names. A Psycho-lexical Study," *Psychological Monographs,* Vol. 47, No. 211, 1936.

Abnormal Psychology. The fact that clinical psychologists deal with phases of conduct or functioning that depart from what is regarded as normal might suggest that *abnormal* rather than *clinical* should be the descriptive term used. This point is worthy of some discussion. In the first place, the norm itself is theoretical and the word *normal* applies to a range of activity rather than to some single point of performance. Hence there is a degree of variation in human behavior which is tacitly agreed upon as being within normal limits, even though those limits are not exactly determined. Normality is how the majority of us talk, dress, eat, grow, learn, play, express ourselves emotionally, and conduct ourselves in general or specific social relationships. It will be at once recognized that these standards of behavior, like those of physical development, are relative to the community in which one happens to live. In the Oturi forest in Africa it is normal to be less than five feet tall; in the Kalahari it is normal to be steatopygous—to possess such a prodigious outgrowth of the buttocks as would be considered a deformity elsewhere; in Central Australia it is normal to lend your wife to a strange guest; among the Spartans it was normal to steal provided you were not found out. Thus there arises the interesting question as to whether community standards are not sometimes abnormal. In a crowd of "jitterbugs" it may be the individual who rejects the common pattern of behavior who is normal. These instances, however, are exceptional, and for most of our behavior we seem to have fairly clear ideas as to what is normal and what is not.

Even with regard to characteristics that are susceptible to exact measurement, we seem to be content with tentative yet commonly recognized limits of normality.

Stature, for example, can be easily measured, yet we commonly characterize people as regards height without any attempt at exact definition. Yet we would probably agree fairly well in designating certain people as tall and would probably be in quite general agreement as to those who should be considered as abnormal in stature.

In psychology we apply the term *abnormal* not to all those who depart from a theoretical norm or mean but only to such persons as depart very markedly from that average. Again, the limits that include the normal range are not defined but are tacitly recognized. Not all marked deviations are considered as falling within the scope of abnormal psychology, however, but rather those that are distinctly adverse to social functioning. Color blindness, for example, inability to reproduce a tune, and certain speech defects are not usually considered to lie in the field of abnormal psychology. On the other hand, certain phases of behavior which represent gross exaggerations of normal conduct are regarded as abnormal. As an illustration, we may cite the ceaseless flow of verbal activity which accompanies certain forms of psychotic excitement and which can easily be distinguished from the loquacity to which some of us are addicted. Because of its concern with the grosser deviations in mental functioning, abnormal psychology may be considered a branch, though a highly specialized branch or extension, of clinical psychology. Because of its intimate relation to psychopathology, which belongs in the field of medicine, abnormal psychology will be largely in the hands of psychiatrists.

Methods of Clinical Psychology. A further consideration is the fact that the term *clinical* has come to be associated not only with a certain field of work but with

distinctive methods. Generally speaking, the psychological clinic may be compared with an out-patient department of a hospital, the complaints dealt with being as a rule less serious and the treatment shorter. The psychiatrist, on the other hand, because he deals with serious abnormalities affecting social functioning more directly or immediately, has the greater need for intensive treatment of his patients. In many cases these latter require hospitalization where constant observation is possible. When this is not necessary, the psychiatrist may arrange frequent interviews with his subjects ranging over periods of months or even years.

The clinical psychologist, on the other hand, has much more limited opportunities for observation and treatment. He does not, therefore, speak of his subjects as patients, but—in default of a better name—as cases.[2] Many of these cases cannot, or need not, be withdrawn from social functioning. The usefulness of this type of service, and therefore the setting up of clinical psychology as a recognized profession, has come about largely through the devising of tests and measurements that provide us with significant samples of individual behavior in socially important fields. Even under the conditions of short-term contacts, these new clinical tools have been shown to yield highly important data on personality. The provision of these tools has created the demand for their application. In addition to these objective aids to the understanding of the individual, the psychologist must use in his interviews with cases such insight into human motivation and mechanism as clinical experience, whether

[2] Though *case* is not a very good term to describe the relationship of the individual to the clinic, it seems the best available. The only other term at all suitable would be *client,* and that does not express the relationship properly.

psychiatric or psychological, can contribute. If tests were purely objective, a large part of clinical practice would be merely psychometry; but it is in the proper interpretation of the test results that psychological experience and training are requisites. Again we may find an analogy in the practice of medicine. The technician may supply the results of laboratory tests, but it is the doctor who must make the necessary diagnoses.

Because testing and measuring are more quantitative and precise than the methods of the psychiatric interview, they can be applied for the demonstration of slighter deviations from the normal. These lesser deviations added up, however, may be enough to account for an individual's social insufficiency. Intelligence tests are, of course, available for demonstrating mental functioning much below the average. The relationship existing between tested intelligence and social sufficiency is reason enough for the fact that, in this country at any rate, the diagnosis of mental deficiency is left almost entirely in the hands of clinical psychologists.

In spite of the fact that psychiatrists and psychologists differ in their training and techniques, in the degree to which their respective patients or subjects deviate from the normal, and to some extent in their specific methods of diagnosis and treatment, there is still a great deal of confusion in people's minds as to the distinction between the two professions. Social workers, parents, and probation officers are too often in doubt as to where to refer their problems. Existing practices have brought about considerable overlapping of the two fields, but a simple analogy illustrating the different nature of the aberrations or deviations with which psychologists and psychiatrists deal may make the distinction clearer.

The Role of the Psychiatrist. When an automobile comes from the factory and goes on the road, the period of its proper functioning will depend upon a number of circumstances. It may meet with accidents or neglect. The roads may be so rough, or the burden it is called upon to carry may be so great, that even a normally well-built car cannot stand up under the strain. The engine may stall or run unevenly, or the framework may become loosened—sure signs that the car needs overhauling and repairing at the hands of a master mechanic. The mechanic listens to the noise made by the mechanism—and sometimes to that made by the driver—and on the basis of his training and experience with other cars in similar plight makes his diagnosis and sets about effecting repairs. The master mechanic's role is analogous to that of the psychiatrist. The latter is concerned with the individual who, because of faults of early conditioning or exceptional circumstances or other reasons, is unable to withstand the stress and strain of life. Shocks, losses, disappointments, and frustrations of various kinds are the common lot of mortals everywhere. Some of us, however, have not the resiliency, the comeback that others possess. In common parlance, we cannot "take it." Or it may be that strong impulses in certain directions may be incompatible with equally powerful urges of a different character, so that all progress is "stalled" and a psychoneurotic condition is the result. Sometimes the conflict becomes so intense that long-continued discouragement culminates in suicide, marking the complete negation of mental hygiene.

The above analogy does not mean that the psychiatrist is concerned only with the personality that has broken down, the car that has ceased to run. There are many

maladjustments which, if taken in time, may be corrected. The tempo of life may be too fast, the mechanism may need tuning or synchronizing, while other preventive measures may be compared to the oil that will prevent unnecessary wear and tear on the various parts.

The Psychologist's Function. But the car itself may not have been well built when it came from the factory. Besides the accidents of operation, there are also the mischances of development to be considered. The material that was used in the construction may have been weak or faulty, or mistakes may have been made in the assembling of parts. The engine may have been designed in such a way that it is too powerful for the frame or body of the car or, conversely, its power may be so defective that it cannot develop the speed or pickup that is necessary in heavy traffic.

Before we can be sure that the car will perform satisfactorily under ordinary conditions, its development should be supervised by the construction expert. It is he who applies rigid factory and road tests and tries the strength and durability of materials, the balance of parts, the power of the engine. On the basis of this examination the prediction can safely be made that under normal conditions the car will run. Substitute personalities for machines and the analogy between the construction overseer and the clinical psychologist holds good. By means of tests and systematized observations the latter gauges the degree of development—educational, social, and intellectual—the emotional maturity, and the other traits of personality. On the results obtainable by these special techniques the psychologist bases his prediction as to whether or not the individual can function satisfactorily under ordinary life conditions.

But if we consider the analogy further, we shall see that it is inevitable that there should be overlapping of fields of interest. Both the garage man and the factory man are materially concerned with certain factors. Though the latter may make his road tests, these are short, preliminary trials, and he must check with experience on the road; otherwise he will not know what to recommend in the way of improvements in design. The mechanic will also be interested in faulty material used in construction. Though each has his distinctive part to play, both the garage man and the factory man must pool their experience at many points. In the same way, there must be co-operation between psychiatrist and psychologist. Each is interested in failures in human performance, though the former seems to be more concerned with environmental strains and stresses, while the latter's special province is in testing the material of which the mechanism is made.

Lest the analogy be misleading, it is well to emphasize the fact that personalities are not mechanisms. Individuals are self-adjusting to a certain extent, while machines never are. This fact is at once the hope and the despair of both psychiatrists and psychologists. The material we deal with is not wood and steel, but flesh and blood, pursuing its own purposes, achieving its own goals. The clay on the potter's wheel has its own notions as to the kind of vessel it would like to be. We can advise and influence, but we cannot direct nor control. It is discouraging when we see individuals persisting in headstrong or ill-directed courses despite the best advice, but it is an encouraging thing that so many people can recover without benefit of experts. If the whole responsibility for any person's actions were to be placed on the shoul-

ders of psychiatrists or psychologists, there would be grave doubts as to whether they would be wise enough to carry the burden. Mental experts, too, it must be confessed, have their own problems in adjustment, and sometimes the advice they give is platitudinous or impossible.

Differences in Training. The difference between the roles of the psychiatrist and the psychologist is more apparent when we consider their respective training. Mental breakdown, as we have seen, is frequently associated with organic disease, deterioration, and physical defects of various kinds. Medical preparation, therefore, is necessary for the psychiatrist. The pediatrician, or expert on childish ailments, is also interested in mental development. For the psychiatric expert there must also be, in addition to ordinary medical training, special experience with the mentally abnormal or diseased in a mental hospital. Rarely, however, does a medical course include anything but the barest minimum of instruction in normal psychology.[3] Child guidance should, of course, presuppose familiarity with the field of child psychology. This is seldom, if ever, obtainable in medical schools. There is no need for unjustifiable pretensions on this score, and it might as well be admitted that the possession of an M.D. degree does not qualify a doctor for child-guidance work any more than a Ph.D. degree gained, let us say, in animal psychology can be considered an adequate basis for clinical work.

[3] Dr. F. G. Ebaugh ("Ideal Standards for the Teaching of Psychiatry in Class A Medical School," *Journal of the Association of American Medical Colleges*) recommends 150 hours of instruction in the psychiatric field—about 3 to 4 per cent of the total curriculum hours. Of this, 16 hours, or about 11 per cent, should be devoted to "the study of the normal functioning of a totally integrated individual as a person"—evidently the field of psychology. This means that less than one half of one per cent of the total medical curriculum is devoted to normal psychology.

Adequate preparation for the psychoclinician involves familiarity with the work of the child psychologists, an immense amount of research having been done by them, including the devising of practically all the objective tests and measurements in clinical use. That psychologists have not been too largely occupied with test making is shown by a survey of the main topics dealt with in such a compendium as the *Handbook of Child Psychology*.[4] Studies of prenatal behavior in humans and infrahumans and the reactions of the neonate or newborn child form the basis of our present-day knowledge of man's original equipment and of how abilities mature—all of which is necessary before we can judge whether development can be considered normal. Children's emotions, the influence of environmental factors in socialization, the acquisition of language, speech pathology, sex differences in mental development, physiological appetites, eidetic imagery, mental measurements, comparative studies of the gifted, the feeble-minded, and primitive children—these are the main subjects of psychological research with children. The fact that upwards of 2500 investigators or writers are cited in this single volume is enough to indicate what a large body of data on child psychology has accumulated. To become reasonably familiar with these findings would in itself require years of study.

Naturally, the opportunities for observing deviations in the behavior of the very young child are limited. Parents usually think themselves equal to the adjustments that are to be made between the child and the rest of the family without directly consulting the psychologist. This, however, is rather unfortunate, as the

[4] Edited by Carl Murchison, 2d edition, Clark University Press, Worcester, Mass., 1933.

modern mother who is intelligent and wishes to be progressive has usually read too many books on children's upbringing, many of which contain remarks on generalized treatment that may be quite unsuited to the individual child. However, it is much more usual for peculiarities in conduct to be overlooked or glossed over until the child enters school. This provides the first social situation outside of the family that the child is called upon to meet, and mistakes in adjustment there may have a bearing on the child's development for many years to come. Kindergarten and nursery schools are badly in need of psychological advisers. Here again the principal dangers in child handling arise from a little knowledge, which may be worse than none at all.

In the elementary grades of the primary school attention is naturally focused on the child's learning capacities. Where failures occur, the clinical psychologist should be called in. Obviously, he must be equipped not only to discover the reasons for failure but, where possible, to prescribe the proper remedial measures. It is inevitable, therefore, that his training must include considerable preparation in educational psychology and particularly in what is called "the psychology of the common branches." Associated with these failures in learning are various phases of conduct. The child who is not profiting by school instruction is often at odds with both his teachers and classmates. School counseling should have an assured basis in knowledge of the underlying motives and atypical forms of child behavior.

Training for Child Guidance. From what has already been said in this chapter, it is evident that training in clinical and abnormal psychology tends to proceed along divergent lines. Recently there has been a serious

attempt to include in medical curricula more thorough training in child psychology for both psychiatric and pediatric students. So much, however, has been accomplished in the psychological study of children that it would seem unwise to expect the medical student to cover this ground as well as his ordinary studies. The medical curriculum is already overloaded, and it would probably be better to allow the divergence in the psychological and psychiatric training to continue and then to arrange for co-operation in the study of cases which fall within the zone between the two fields of professional interest.

As regards the training of psychiatrists, experience suggests that they should be given a more thorough preparation in neurology and neuropathology, so as to be better equipped to deal with the organic conditions that often underlie mental breakdown. Cases that have been referred to a psychiatric clinic have sometimes received inadequate examinations from the neurological point of view. Possibly the remarkable strides that have been taken of late years in the understanding of the functional disorders of mental life have turned attention away from neuropathology and physiological changes in the nervous system. The surprising effects of insulin shock and metrazol treatment, however, would appear to suggest that some psychotic conditions, commonly considered functional in character, have an organic basis. There are so many possibilities for research in the field of neuropsychiatry that the psychiatrist would do well to leave the study and treatment of the nonpsychotic largely in the hands of the psychologist.

As part of the psychologist's training, an interneship in an institution for defectives would be most helpful. It was Goddard who long ago suggested that the slower

rate of development in the feeble-minded would allow of much better understanding of normal processes. It should be remembered that such innovations as the Montessori methods of teaching, which did so much to free the teaching of young children from the bondage of convention, and the whole mental testing movement received their greatest impetus through their application to defectives. Further, the methods of teaching the subnormal have many applications to the instruction in the ordinary school subjects of children with special disabilities. If this interneship is not possible for the psychologist in training, at least a period of actual experience in a psychological clinic is essential.

Nothing herein contained should, however, be construed as discouragement for those who would obtain both psychiatric and psychological training. Among the directors of well-known clinics are some with this exceptional preparation, but for the generality of students both medical and psychological training is an impossible goal. Specialization has proceeded too far in both fields, and the proof of this lies in the fact that usually those trained in both fields are active in only one. As has been previously indicated, co-operation is the most reasonable plan where there is overlapping between the two spheres of professional activity.

Direction of Child Guidance. In this country it has been the usual practice to appoint psychiatrists as directors of child-guidance clinics and to employ psychologists as assistants. These psychologists are usually only mental testers, the interpretation of their test results being undertaken by the psychiatrist. The responsibility for this situation seems to rest on the circumstance that the establishment of such clinics has been largely due to the

efforts of the National Committee for Mental Hygiene, an association composed largely of psychiatrists. There seems no reason why psychologists, unless they are trained merely as psychometrists, should accept such subordinate positions. Trenchant criticism of the claims of the psychiatrist to dominate the field of child guidance has recently been coming from psychologists. In a report [5] to the Julius Rosenwald Fund by Dr. Donald Slessinger the following statement is made:

> The psychiatrist, *qua* psychiatrist, is a specialist in mental diseases and is not necessarily the appropriate person to lead a child-guidance clinic or to deal with problem children. There is nothing in his training as a medical man or expert in mental disease to fit him for guidance. He is not working with psychotics or even with incipient psychotics, for the most part. In only one psychiatric training center, the Colorado Psychopathic Hospital, is definite training in child guidance being given.

On the other hand, it must be admitted that many psychologists have no special qualifications for child guidance. Adequate training consists not only in having taken extensive work in child psychology but also in possessing special experience in a clinic, an institution for defectives, or a center for juvenile research.[6]

The question as to who should direct mental clinics ought to rest on the special qualifications and experience of the individuals available. To say that child guid-

[5] "Some Observations on the Status of the Mental Sciences in the United States and Canada" (unpublished report).

[6] Dr. George S. Stevenson, director of the National Committee for Mental Hygiene, has defined a child-guidance clinic as "a psychiatric clinic that includes psychologists and psychiatric social workers; it is a clinic that deals primarily with behavior problems of children ranging fairly normally in distribution." If that is its function, then its direction should be in the hands of persons specially trained, not only with regard to the abnormal and the defective but with normal children.

ance should be always directed by psychiatrists or by psychologists would be an arbitrary ruling, without proper foundation or reason. Successful clinics in this country have flourished for many years under both types of direction.

The trend of this discussion of the role of the psychoclinician should make it apparent that he deals in the main with the immature in development. The psychiatrist, on the other hand, is concerned mainly with adults. There can, however, be no rigid division of cases on the basis of age. Problems of vocational guidance, of the treatment of criminals, and of marital adjustment often belong in the psychological field and affect adults. On the other hand, the psychiatrist is rightly interested in children whose instability of temperament or peculiarities of disposition or behavior mark them down as individuals who are likely to suffer mental breakdowns in later life. It would be well for the psychologist to have adequate courses in abnormal psychology, so that he may recognize the symptoms which indicate that referral to a psychiatric clinic is necessary. Whenever symptoms of mental disease or of serious disturbance of normal mental functioning are apparent, the psychiatrist should direct the treatment.[7]

Long-term and Short-term Treatments. Another distinction between the two fields of work lies in the generalized approach to the problem, particularly with regard to the time taken in dealing with individual cases. In psychiatric work a lasting repair job in a serious sit-

[7] In actual experience it has been found advisable to make occasional exceptions to this rule, especially where individuals have a decided fear that they are "going insane." In such cases the attempt to refer them to a psychiatric clinic, especially if it is located at a hospital, has had very bad effects.

uation naturally will require a lengthy period of treatment. The surgeon's remedy for unhealthy bodily growths is brief and incisive—and failure or success of the operation is usually at once apparent. Unfortunately, the psychiatrist has no knife with which he can deal with the pathology of the mind. He has no verbal formulae that can resolve doubts and dissipate anxieties of long standing, nor is he able by means of a quick dissection to lay bare all the unrecognized motivation of actions. He must literally talk the patient out of his troubles—if he can. This is likely to be a lengthy process. If he uses the psychoanalytic approach, a method of catharsis—literally, purgative action—the time taken will be longer, for the essential feature of this method is that the patient must be given an opportunity to talk himself into self-understanding and out of his mental troubles.

In any case, psychiatric treatment may require many visits to the clinic before therapeutic measures can attain success. Because of the importance which the psychoanalysts attach to childish and even infantile experiences, there is usually a thorough exploration of the personal background of the patient. Under these circumstances, the number of cases dealt with is necessarily small. Dr. David Levy, a well-known psychiatrist, has stated that the average load for each psychiatrist in a mental hygiene clinic should be no more than fifty new cases annually. The result is that the per capita cost of treating psychiatric patients is high.

Because of the close and intelligent co-operation that is required from the patient, many psychiatric clinics will not accept individuals for treatment unless they are of normal intelligence. Their best work is done with those that are of above-average mentality.

The clinical psychologist, on the other hand, deals with such a variety of problems and usually carries such a heavy case load that the time spent on each individual is necessarily short. This will be plain in the next chapter, where the range of cases with which such a clinic deals is set forth. Obviously, most of the work can be only advisory or consultative, undertaken in co-operation with other social agencies. Nor can it select or cull its clients on the basis of intelligence; it must deal with the "run of the mill." If the clinic is supported by public funds, it must attempt to meet community demands, which are usually heavy. Often the examination must be carried out in a single interview, though it is usually possible to see cases more than once.

Yet, though the clinical psychologist has such a limited opportunity, he can by means of a skilled use of well-selected objective tests and measures obtain samples of behavior and performance which will give him an evaluation of the subject's personality that six months of ordinary acquaintance would not provide. To repeat, if in addition to these tests he has had a long experience with human problems, so that he has gained insight and interpretative skill, he will be less likely to accept the test verdicts blindly. Like the psychiatrist, he must draw heavily upon that experience for his sympathetic understanding, not only of child nature but of the nature of the world to which the child must adjust himself. Contrary to some psychiatric belief, a psychologist is not merely a mental tester. Nevertheless, tests form an important part of the practice of clinical psychology.

Definitions of Clinical Psychology. Several years ago a committee of the Clinical Section of the American Psychological Association suggested a definition of

the aims and scope of clinical psychology, the first part of which would probably meet with general acceptance. This reads:

> Clinical psychology is a form of applied psychology which aims to define the behavior capacities and behavior characteristics of an individual through methods of measurement, analysis, and observation.

So far so good; but the questionable part of the definition lies in the further description of the function of clinical psychology when it goes on to say, "and which, on the basis of an integration of these findings with data secured from the physical examinations and social histories, gives suggestions and recommendations for the proper adjustment of that individual." There is here an implied claim that the psychologist should undertake the integration of all the pertinent data, including the social history and the medical findings, and, having all the relevant threads in his hands, make the necessary suggestions and recommendations for treatment. But this assumption of sole direction is the very thing which the psychiatrist claims for himself and to which the psychologist so strenuously objects on the grounds that the former is not competent to make an adequate interpretation of all the data. The statement of the clinical psychologist's function, couched on the lines of the above definition, would seem to be equally unjustified.

Would it not be a more direct and simpler statement of the function and scope of clinical psychology to say that it is the study of the adjustment of an individual to some given social environment through methods of measurement, analysis, and description that have been devised or are commonly used by psychologists? Un-

doubtedly, from that study will come suggestions and recommendations, but the suggestions should be limited to those that spring more directly from psychological observations and not from those of the pediatrician or skilled social worker. Unfortunately, the trend of the modern social case worker's training seems to lie in the direction of attempting to enable the worker to do the whole job of adjustment unaided, to the partial or complete neglect of approaches for which there is a lack of training and experience.

The Field of Clinical Psychology. One of the clearest statements as to the field of work in which the clinical psychologist is interested has been made by Brotemarkle in the report of the Clinical Section of the American Psychological Association already referred to. His statement reads:

> That broad borderland of individual problems which is found in the overlapping between the mentally abnormal or psychiatric field and the mentally normal or psychological will always attract the activity of both the physician, or psychiatrist, and the psychologist. Each will profit most by the heartiest scientific co-operation with the other. Clinical psychology cannot avoid the aid of the medical man in the physical factors of the human problem, and if psychology continues to unfold the broad body of scientific knowledge which is its experimental domain, the medical profession cannot avoid the use of the psychologist in conjunction with its immediate tasks of health and adjustment. This interdependence is inherent in the points of view of psychiatry and psychology. Psychiatry is fundamentally interested in the kind of change or deviation of the dement, while psychology is fundamentally interested in the amount of change or retardation of the ament.

Outside the fields of these fundamental interests into which there should be no interprofessional intrusion stand a large group of individuals whose conduct departs in different degrees and directions from the normal. It is these cases that demand co-operative psychological and psychiatric treatment. In the meantime, until that co-operation is more actual than theoretical, it is the psychologist's clear duty to go on developing all kinds of methods of analysis, measurement, and description that may prove helpful for the understanding of the individual. The main purpose of this book is to describe and discuss some of the methods that have already stood the test of experience.

References for Chapter I

Louttit, C. M., *Clinical Psychology,* Harper & Brothers, New York, 1939 (See chapters I and VII.)

——, "The Place of Clinical Psychology in Mental Hygiene," *Mental Hygiene,* January, 1929

Rademacher, E. S., "The Single Interview," *Mental Hygiene,* January, 1929

Rogers, Carl R., *The Clinical Treatment of the Problem Child,* Houghton Mifflin Company, Boston, 1939 (See Chapter XII.)

Shaffer, L. F., *The Psychology of Adjustment,* Houghton Mifflin Company, Boston, 1936 (See Chapter XV.)

Stevenson, George S., "Community Clinics as Training Schools for Psychiatrists," *Mental Hygiene,* July, 1934

Stevenson, George S., and Smith, Geddes, *Child Guidance Clinics,* Commonwealth Fund, New York, 1934

Wallin, J. E. Wallace, *Clinical and Abnormal Psychology: A Textbook for Educators, Psychologists, and Mental Hygiene Workers,* Houghton Mifflin Company, Boston, 1927 (See chapters I and V.)

Westburgh, Edward M., *Introduction to Clinical Psychology for Students of Medicine, Psychology, and Nursing,* The Blakiston Company, Philadelphia, 1937 (See pp. 231-245.)

White, William A., *Twentieth Century Psychiatry,* W. W. Norton & Company, Inc., New York, 1936

White House Conference on Child Health and Protection, *Psychology and Psychiatry in Pediatrics: The Problem,* D. Appleton-Century Company, Inc., New York, 1932

Zachry, Caroline B., "Mental Hygiene in a Teacher-Training Program," *Childhood Education,* April, 1931

CHAPTER II

Survey of Clinical Problems and Methods

The Clinic Program. In Chapter I the difference in methods of approach, and therefore of training, between the psychologist and the psychiatrist have been briefly outlined. One distinction, which is most important, has been merely touched upon, namely, the fact that the clinic which attempts to carry out intensive treatment must rigidly restrict the number of cases dealt with, or else have at its disposal almost unlimited funds to allow of the employment of a very large staff. Long-term treatment involving perhaps fifty visits of a patient to the clinic is obviously expensive and time-consuming work. Whether it is carried out at a psychological or a psychiatric clinic, it is beyond the means of any communities other than the largest and wealthiest. Only privately endowed or experimental clinics can function in this way and deal with large numbers of cases. The ordinary tax-supported organization in a middle-sized or smaller city cannot afford such a program.

The psychological clinic of the future, which, according to present trends, will be established in close connection or affiliation with a university, must seek to spread its benefits as widely as possible. Though in certain cases it will undertake long-term treatment, this will remain the smaller part of its responsibilities.

Co-operation in Mental Hygiene. The school, the juvenile court, the children's institutions, the social service agency, and the home together present such a host of

problems in child guidance that long and intensive individual treatment, or what is called deep therapy, at the hands of psychologist or psychiatrist must remain the privilege of the few. Yet in all these cases the psychologist has something of value to offer as regards study and guidance. Obviously, then, his chief role will not be authoritative and independent but to act in close conjunction with the teacher, the parent, the social worker, or the probation officer. He will function in a diagnostic and consultative capacity rather than in a directive one. He makes no claim that his special training gives him the right to dominate the social-adjustment situation. Admittedly the work might be more satisfactory to him if he had the whole treatment as well as the diagnosis in his own hands, but under ordinary circumstances this is impossible, even if his superior competence were assumed. But the well-trained social worker or the experienced teacher is not disposed to accept dictation from another person simply because the latter possesses a Ph.D. or an M.D. degree.

In clinical practice the consulting psychologist usually encounters little difficulty in co-operating freely with pediatricians, mainly because the specialist in children's diseases makes no attempt to interpret the psychological findings and thus to dominate the clinical situation.[1]

[1] Dr. Bronson Crothers (*A Pediatrician in Search of Mental Hygiene*, p. 170) expressly disavows any such claims. He says: "The pediatrician who has gone to mental hygiene meetings and read mental hygiene articles for a few years has heard about the 'classical team' in the child guidance clinic of psychiatrist, psychologist and psychiatric social worker, with the psychiatrist, at the apex, orienting the psychologist. The pediatrician thinks the top of the heap a pleasant place, and 'orienting' is a pleasant word. If he finds a psychologist of adequate caliber he finds that orienting is more or less synonymous with being put in one's place, and the place of the pediatrician is not, at least until he is educated a bit, at the top of the heap, as far as the study of behavior is concerned." Quoted by permission of the author and the Commonwealth Fund, publisher.

Value of Psychological Examinations. That psychological tests and counseling have an important place in every program involving attempts at better individual adjustment is now generally recognized. The teacher, before she undertakes remedial teaching or any intensive educational treatment, must know whether the retardation of the pupil is general or limited. If it is the former, then her efforts would have the same result as those of Itard with the wild boy of Aveyron: after expending all his ingenuity in perfecting special teaching methods, Itard discovered that his pupil was a congenital imbecile. Had Itard's work been done at the present time, any psychologist could have saved him a world of trouble.

Likewise, the probation officer, suddenly confronted with a pressing problem of juvenile delinquency, cannot afford to learn by ordinary contact and observation the personal characteristics of the child or adolescent. The clinical psychologist, with his special devices, can in an hour or two give as good a picture of the potentialities of the case as several months of ordinary observation would yield. The judge who has to confirm a sentence fixed by a prison board should have at his disposal the information about the prisoner that psychological study will provide.

The youth who is choosing a profession or a vocation finds it helpful to have an analysis of his interests and abilities. The parent who is unwilling to side-step his responsibilities and who makes an honest attempt to straighten out his child's emotional difficulties of adjustment usually finds psychological analysis of family interactions most helpful and enlightening, and he may himself gain something from the consultation. In short, there is no need to make out a case for the value of psychological counseling and consultation; the success of the work is

sufficiently established by the increasing demand for this service. Because of the short time available, it is obvious that deep-seated anxieties and conflicts cannot be effectively dealt with in ordinary clinical practice. However, there are very many instances of less serious emotional involvement wherein the individual must ultimately be his own therapist, and in such cases the psychologist may easily introduce a wedge that will widen the door to self-understanding. If it is only by conveying the idea that the person's problem is not unique but is one that is thoroughly familiar to him, the psychologist makes the encouraging suggestion that the situation is remediable.

Types of Clinics. From what has been said elsewhere, there is little doubt as to where the psychological clinic should be situated. Psychiatric clinics function best in connection with hospitals; psychological clinics in relation to universities. Both must meet and co-operate in the community. Research and practice are so intimately associated that they should be carried out at the same institution. It should be recognized that clinical psychology is a very young activity, and as long as university psychology departments keep up their present interest in experimentation in the field of child behavior, the child-guidance clinics should function in close association with the centers for research. Procedures will be taken over directly from the laboratory, and in their turn the clinics will provide further case material for extensive study and the validation of methods.

The functions of the psychological clinic and therefore the professional preparation of its staff will perhaps best be understood by a brief survey of the actual problems with which it is called upon to deal in ordinary practice. We are concerned at present with an organization situated

in a city of small or medium size, where the demands for its service will be rather general in nature. In larger centers of population the work of clinics will tend to be specialized. School systems, for example, will be served by psychoeducational clinics which are devoted to the psychological adjustment of the child to the school and pay particular attention to the diagnosis and treatment of educational defects, undertaking group and individual work with children with speech defects, and working closely with principals and school counselors on problems of discipline, mental hygiene, and so on. If the clinic is connected with the juvenile court, its research and practice will be confined largely to delinquent and predelinquent boys and girls. In the smaller city, such differentiation of functions is likely to be impossible. The psychological clinic must deal with all kinds of problems of social, family, and educational adjustment, the specialization, if any, being in the preparation of the staff. A very practical division of duties is to make one member responsible for psychoeducational work and vocational guidance, another for problems of crime and delinquency, a third for young or preschool children and family adjustments, and a fourth for the diagnosis of feeble-mindedness and such special defects as are met with in the services for crippled children, sight conservation, and speech correction. Staffed with specialists in this way, the psychological clinic is equipped to deal with the ordinary run of cases presented for study.

General Clinic Cases. A general idea of the problems dealt with can be gained by listing three days' appointments at a clinic such as we have described. These cases are briefly summarized as follows, the selected period having been chosen at random.

Preschool Children

(1) A four-year-old girl was referred by a pediatrician and characterized as a "perfectionist." She has superior mentality but a marked rigidity of standards for a young child. She is overscrupulous and methodical, and the careless, spontaneous activities of other children annoy her to such an extent as to interfere with participation in the work and play of children of her own age group.

(2) A children's service association referred a baby of 13 months with a question as to removal from present foster home and legal adoption into another family. Is the child from the standpoint of development of intelligence a good risk?

(3) A mother brought her five-year-old son and asked advice as to choice of kindergartens. In this case there was no real problem, but the mother probably wanted reassurances that her child was really as bright as she thought he was. Parents are sometimes quite anxious to show off a precocious child, and in such cases the examiner is careful never to quote any I.Q.'s, so that they will have no justification for boasting to the neighbors.

School Problems

(4) The principal of a private school was concerned as to the right treatment for a bright but not well-adjusted boy six and a half years old. He is physically overactive, overdependent, seeking notice and assurance from adults with whom he comes in contact. After examination and a careful investigation of the psychological factors in the maladjustment, the case will probably be referred to a pediatrician for co-ordinated study.

(5) An eight-year-old boy was brought by the mother for diagnosis and suggested treatment of a serious reading disability.

(6) Parents and school principal were jointly responsible for presenting another case whose school progress falls far short of his general intelligence level, which is normal except

for a very poor auditory rote memory. After diagnostic analysis of the examination results, visual methods of instruction in reading, spelling, and arithmetic will be demonstrated for, and carried on by, the teacher.

(7) A girl of six years, another school problem, has excellent abstract or verbal ability but poor practical intelligence. She is mentally timid, afraid to venture beyond the limits of the accustomed, and makes a correspondingly poor adjustment to situations with new elements.

(8) A bad case of stuttering was brought to the clinic by a school counselor with a request for personal analysis and corrective suggestions.

(9) A high-school student was referred as a disciplinary problem—reported for gambling and smoking on school grounds.

(10) After diagnosis at the clinic, an interview was arranged with the parents and teacher of an intermediate school pupil who has been pushed along through school but is really a high-grade feeble-minded boy. Plans for future handling and guidance were discussed.

Juvenile Delinquents

(11) A seventeen-year-old boy was referred by the juvenile court for examination. He has committed indecent acts with a four-year-old cousin at the house where he lives. He also is a high-grade mental defective.

(12) A fourteen-year-old girl of borderline mentality was reported to be sexually promiscuous. Should she be committed as a defective or as a delinquent?

(13) Another case was also one of sex immorality—a fifteen-year-old girl of average intelligence, who established relations with a boy living next door. The boy will also be brought for examination, and help in arranging a constructive program for each is asked by the juvenile court probation officer.

(14) A boy, fifteen years of age, was reported to have committed repeated petty thefts. What chance has he of adjustment in the community without commitment to reform school?

Adult Consultations

(15) A student, twenty-one years old, was referred by the university physician because the youth is worried and anxious about his work. He is losing weight, has a poor appetite, and thinks the quality of his work is deteriorating. As there has been a history of tuberculosis, he will be later referred back to the physician for a thorough physical check-up.

(16) Another student came ostensibly to deliver a message from a former clinic case, but he really wanted to consult the psychologist with regard to nervousness, feelings of inferiority, and worry about masturbation.

(17) Vocational guidance was sought by a twenty-three-year-old girl who failed in the fifth year of a teachers' training course. Should she continue with the attempt to become a teacher or seek another occupation within the range of her ability and interest?

(18) A married man came asking advice with regard to his general family adjustment. He is worried about his business, dissatisfied with family and social relations, and complains that his wife is unsympathetic and does not recognize any problem. The children are always quarreling. This case requires careful collaboration with a social or family case worker, as interviews with each member of the family will be necessary before proper advice can be given.

(19) Consultation was had with a mother who had taken a nephew into her home but found him to be resentful of all discipline and control. He is very bright but expects a degree of independence out of proportion to his age. How should she deal with him so as to be fair to him and to her own sons?

(20) A girl of twenty-three was reported by her mother as displaying queer tendencies, such as excited periods alternating with depression and religious obsessions. She is evidently not a case for the psychologist and will be referred to a psychiatrist, with a report on the test results which may be helpful to him in his diagnosis and treatment.

In addition to these cases, the member of the staff who acts as prison psychologist interviewed and examined five prisoners within the three-day period, and made recommendations to the prison board as to minimum sentences or parole. He also presented in each case an analysis of the criminal's record.

Range of Clinic Activities. Though the above represent a random section of cases, it is sufficient to illustrate the general character of clinical work. It should be noted that the cases range in age from infancy to adulthood, in scholastic standing from kindergarten to university, in grade of mentality from feeble-minded to very superior, in gravity of situation from one of little importance to incipient psychosis, and in type of problem from suitability for family adoption to vocational guidance. Not the least interesting feature in clinical work is the individual who comes on his own initiative to the clinic for advice. In presenting this sample listing of problems with which the clinic is called upon to deal, it is by no means implied that in each case the psychologist has some magic formula or ready-made solution to apply. His techniques are not such as to warrant any *deus ex machina* pronouncements. In many instances his diagnosis must be reserved and his recommendations tentative. The success of the adjustment will depend, not only upon the potentialities of the individual, but also upon the good will of all those concerned with the problem,

and upon the general environmental circumstances. But an excellent starting point is a measure of the capacity of the subject to make adjustments, and this data the clinical psychologist seeks to supply.

Causes for Referral. A survey of a year's cases will give a better summary of a clinic's activities. For purposes of comparison we may cite the work of the Psychological Clinic of the University of Pennsylvania. Though it is situated in Philadelphia, its clientele is of a very general character, due to the fact that it was established over forty years ago by Witmer, and its work is therefore very well known to the people of that city. According to an article by Dr. Miles Murphy,[2] 357 children were presented in one year at the clinic for general mental examinations, exclusive of those who came to the speech clinic and for vocational guidance. The proportion of males was about twice that of females, and the largest age groups were from 6 to 12 years, the range being from 2 to 17 years.

Examinations in the Psychological Clinic of the University of Hawaii for the year 1938 numbered 1125. Here also males were more numerous than females, and the largest age groups were, as in Philadelphia, between the ages of 6 and 12 years. As Murphy remarks, there is considerable overlapping in the classifications; for this reason the figures are not strictly comparable. In Hawaii a larger percentage were referred because of behavior problems and a much smaller percentage for "interest." Children under this heading, according to Murphy, "included those cases who were brought primarily because parents were interested or curious to know what psy-

[2] Murphy, Miles, "What Do Children Come to the Psychological Clinic For?" *The Psychological Clinic,* March, 1930.

chology had to say about their children. Psychology is very much 'in the air' nowadays, and people hear about it. Very often, for example, the parents believed their children to be superior and wanted to have their opinion confirmed." In Hawaii this practice of bringing children to give the psychologist the privilege of seeing a bright child has been definitely discouraged. There is not time enough to examine all the cases which present actual problems.

In Table I the data for both clinics are given for both sexes combined, the only change from Murphy's table being the substitution of "Emotional Maladjustments" for "Nervousness."

TABLE I

REASONS FOR REFERRING CHILDREN TO CLINICS

Causes	*Philadelphia*		*Hawaii*	
	Number	Per Cent	Number	Per Cent
School Retardation	74	21	183	17.9
Behavior	56	16	254	24.8
Mental Status	63	18	240	23.4
General Retardation	39	11	75	7.3
Educational Guidance ...	27	7	212	20.7
Emotional Maladjustment	12	3	20	1.9
Interest	56	16	26	2.5
Miscellaneous	30	8	15	1.5

The Clinic and the Schools. Any consideration, however cursory, of the variety of problems presented by the clientele of a psychological clinic will suggest the directions in which preparation for the practice of clinical psychology must proceed. Even though the subject matter of later chapters describes more fully some phases of the work for which training will be required, an initial

enumeration and brief discussion of some of its chief divisions is given here.

School systems that do not employ their own psychologists almost inevitably must rely for help on the resources of the clinic, so that training in educational psychology for the clinical worker is a necessity, particularly in the fields of measuring aptitudes and achievements and diagnosing specific disabilities. But, as previously indicated, the psychologist must be prepared not only to diagnose the disabilities but also to demonstrate the remedial measures that are likely to bring the best results. Very few teachers have as yet had adequate training in the application of these measures to children with disabilities in reading and arithmetic. Finding the ordinary methods ineffective, the teacher often gives up in despair and brands as dull or defective the children who do not progress at the ordinary rate. In a proportion of cases this characterization is undeserved and may do lasting injustice to the child. In some situations, if there is an adequate psychological staff, it is feasible to conduct reading clinics at selected schools, where pupils may be given remedial treatment by the psychologist for demonstration purposes. Remedial work arranged by easy gradients is described in a later chapter. The application of these methods will serve the purpose of both testing and teaching.

Treatment of Young Children. The understanding and treatment of the preschool child is almost a field of study in itself. Scientific observations of young children by modern methods take so much time, and the data to be sifted and classified are so various, that work has not been carried on for a period of time sufficient to establish many valid generalizations; but activity in this di-

rection is great, and valuable results are accumulating. One of the most promising approaches to the treatment of the young child is through what is variously called play therapy or play techniques. This method is one that has been developed largely by psychiatrists, as by David Levy in his studies of sibling rivalry, and it seems to be linked up rather closely with psychoanalytic theories. However, there seems to be no reason why the techniques should not be used by psychologists who accept only a very modified version of psychoanalysis. Some of those most experienced in play treatment are inclined to emphasize among its dangers psychoanalytic interpretations and the consequent feelings of guilt or anxiety that may be set up in the child.

Briefly described, play therapy consists in providing the child with play materials, such as toy soldiers and dolls, blackboard and drawing materials, finger paints and plastic clay, and then participating with him in their make-believe manipulation. The degree of participation varies with the therapist, sometimes with the problem, and whether the process is active or passive therapy, controlled or free. The adult thus comes to occupy a unique position as an understanding, nonpunishing, nonresentful person who is willing to accompany the child on his excursions into imaginary situations where emotional stresses can find substitutive expression. The therapist thus becomes a minor actor or even an interlocutor in a drama of the child's devising. The fact that this adult person is willing to doff his grown-up dignity and authority and act with the child on the latter's level is in itself of therapeutic value. The child immediately gains in security and self-esteem by thus obtaining an adult's complete attention and interest. There is an implied com-

pliment in an older person's co-operation which the child is quick to appreciate.

But in becoming a playmate the psychologist does not relinquish his position as observer, and the situation gives unwonted opportunities for a shortened approach to the study of the child's emotional life. As Dr. Allen wisely remarks, "Play does constitute a natural language of a child. His play will reflect his feeling about himself and his relationship to others." [3]

In dramatizing himself and his relationships, the child brings to light through his play fantasies his hidden impulses, feelings, and interests, and the anxieties and conflicts which result. All this takes place under the unusual conditions of the "protective sanction" of an adult with whom the child feels secure. The whole play situation, therefore, makes possible an approach to the young child which is similar to that used with the older individual who has arrived at an age of complete verbalization and can talk about his difficulties. The only drawback to the use of play in ordinary clinic treatment is the relatively large amount of time consumed. Some case reports record as many as 60 treatment interviews extending over many months. Very few tax-supported clinics can afford to devote this much time to a single case.

The Psychologist as Diagnostician. One responsibility which the clinical worker must take very seriously and which, as shown by our sampling of cases, is a common problem in the experience of clinics is the diagnosis of mental deficiency. Considering the social results of these diagnoses, one realizes the extent of that responsi-

[3] Contributed by Dr. Frederick Allen in a discussion reported in the *American Journal of Orthopsychiatry* under the title "Section on Play Therapy, 1938," July, 1938.

bility. In some countries, such as England, certification of mental defectives and their commitment to institutions is left, by legal provision, in the hands of doctors. Unfortunately, the percentage of recognizable physical types of mental deficiency, such as mongols, cretins, spastic paralytics, microcephalics, and hydrocephalics, is so small that the application of mental tests is a necessity for diagnosis in at least 80 per cent of the cases.[4] It is obvious, therefore, that the psychologist who is trained in devising, applying, and interpreting tests must himself accept the responsibility for mental diagnosis, and that is becoming the rule in America. The diagnosis of feeble-mindedness in the great majority of cases is emphatically not a medical matter; on the other hand, it is just as emphatically not a matter to be entrusted to a person who has had a few courses in mental testing. Diagnosis, as we shall see, must take account of social, educational, and psychological factors, and only those individuals with sufficient clinical and institutional experience should undertake this task. This dual experience is certainly necessary, as the defectives in institutions very often differ in type from those met with in community life. It must be admitted that responsibility for diagnosis has often been assumed by psychologists without this special preparation, and that doctors, even

[4] The large amount of space devoted in books on feeble-mindedness to the description of physical types of amentia may mislead the student into thinking that the mentally defective can be better diagnosed by medical men. A. F. Tredgold, for example, devotes 158 pages in *Mental Deficiency* (5th edition, William Wood & Company, Baltimore, 1929) to describing such cases as microcephalics, mongols, hydrocephalics, cretins, cases with cerebral degeneration or syphilis, naevoid aments, and hypertelorics. Some of these conditions are quite rare and, in all, the whole list would not include more than 15 per cent of the total feeble-minded population. In many of these cases, notably the paralytics, psychological tests must be applied before the diagnosis of mental defect is warranted.

without proper qualifications, are usually very conservative in their judgments of mental capacity.

Problems of Social Adjustment. Our array of cases illustrates another point, namely, that many of the problems, especially those of adolescence, are essentially problems in which complex social reactions play a most important part and hence are very difficult to deal with. Research has provided us with educational and mental measures that are valid enough in the hands of experienced and properly trained examiners; but when we come to measures of social capacity we are on more uncertain ground. Though considerable progress has been made towards devising objective means of estimating traits that underlie character and particularly social maturity, competency in this field is largely dependent upon insight. We are still far from the goal of prediction in the sphere of conduct. But while this is so, there does exist a definite though indirect relation between antisocial behavior and intelligence, with the measurement of which the psychologist is specially concerned. A further discussion of this matter is anticipated by a brief reference here.

A moment's reflection is enough to convince one that the level of mentality is not all-important in matters of conduct. We know that what is ordinarily spoken of as intelligence does not determine the satisfactoriness of our relations with our friends, our family, or society in general. If it did so, then the cleverest people would be the happiest and best adjusted, which, as we are well aware, is far from being the case. We must look for other factors in the causation of deviations from socially acceptable conduct, which in their major degrees we call delinquency and crime. As far as the natural springs of conduct are concerned, we tend to regard the delinquent

as being poorly inhibited rather than unintelligent, though good judgment is necessary in order to know when and where to inhibit. If proper social adjustment depends upon the strength of inhibition, is not this capacity for self-control measurable?

The difficulty seems to be that there is apparently no generalized capacity for inhibition. The desires or urges that impel us to action, the emotions that demand an outlet in physical expression are so various in their strength, so irregular in their appearance, that we are constantly caught off guard. The individual who has achieved perfect control would be so cold and repressed, or so rapt in self-contemplation, that he would be a misfit in society. In one direction a person may be perfectly adjusted and emotionally balanced, or well-integrated (as the mental hygienists term it), and in another situation he may be impulsive, ungoverned, or weak. In other words, there is no such thing as generalized will power but only strength of will in given situations. This is what the theologian thinks of when he speaks of "besetting sins."

Drives: Balance and Co-ordination. The tendencies towards meeting the various needs of the organism are called drives. There are drives for security or self-protection, for organic satisfactions, for new experiences—all definitely individual in reference. There are others which might be termed social needs [5]—the drive for mas-

[5] W. I. Thomas (*The Unadjusted Girl*) lists the fundamental drives or wishes as follows: (1) The desire for new experiences (curiosity, hunting, pursuit, adventure, games); (2) security (prudence, accumulation of property); (3) response (affection, love); (4) recognition (ambition, social distinction). Healy has suggested a fifth: desire for repetition of the familiar experience. People who exhibit this love for the accustomed might be characterized as retroverts, to distinguish them from those who constantly pursue new experiences, who might be called anteverts. (See Porteus and Babcock, *Temperament and Race*, p. 78.)

tery, for friendship and affection, for social approval or prestige, for self-display in various forms. The thwarting of these drives, either through opposition or the removal of the necessary avenues of expression, occasions the various emotions of fear, anger, sorrow, and so on, while their satisfactory outgoing brings pleasure or satisfaction.

What we call a well-adjusted personality results not so much from the repression of any of these drives as from their proper balance. The main factors which tend to bring about confused personalities come from unresolved conflicts between these drives, particularly between those with an individual as against a social reference. If some of the drives are not subordinated, we become like an individual who was described as having motion up, down, sideways, and backwards, but never forwards. Some purposes must be dominant or else we shall never get anywhere. In this connection Brooks [6] quotes Rosanoff's description of a desirable personality:

> The good personality shows an adequate power of inhibition against impulsive behavior, and a rational balance, which perhaps is best displayed in following a guiding principle of conduct throughout life.

The choice of right goals is after all closely related to intelligence. I may wish to pursue a particular course of action, but I am restrained by my realization of untoward social consequences. Immediately we use such terms as *realization* it is evident that intelligence is being brought into play. In its role as arbiter of conduct, the cortex, which Chapter III shows to be the co-ordinating

[6] Brooks, F. D., *Child Psychology,* Houghton Mifflin Company, Boston, 1937, p. 449.

center, is constantly balancing one drive against the other, at one time supporting the self-protecting role, at another allowing the drive for social approval to have free rein. Contrary to implications commonly met with in writings on mental hygiene, it seems true that conflicts are a necessary part of living and that a man without warring impulses would be as colorless and ineffective as a plaster saint. It is unresolved or unresolvable conflicts that are damaging to personality.

Which drives shall be dominant in the individual is dependent upon innate or inborn constitutional factors, modified by environmental experiences. These innate factors may or may not be directly traceable to heredity. Since human breeding is such an unselective, almost haphazard affair, none of us knows very much of the personality traits of his ancestors. Consequently, it is impossible to disentangle the influences of heredity from the effects of environment. Because one set of factors is more open to observation than the other, it is sometimes tempting to disregard the forces inherent in the inner environment of the man and focus all our attention on the influence of nurtural factors in either building up or lessening the strength of drives. This latter overemphasis is well illustrated in current sociological and anthropological literature.

The Controlled Interview. Nevertheless, it must be recognized that for the better understanding of the individual it is necessary to know at least the salient points of his life history and present environmental conditions. The systematic exploration of past experiences through the technique of the controlled interview has long been the particular preoccupation of the sociologist and the psychiatrist. The psychologist must be careful also not to

underestimate the importance of the environmental factors, and especially the influence of family relationships and other social factors. He should be reasonably familiar with the general technique of the interview as described by writers on social case work, such as Young.[7]

The lines of inquiry will, of course, differ with the kind of case presented, and in some situations, such as the collecting of information regarding an individual supposed to be feeble-minded, a definite schedule should be followed.[8] In general, the psychologist will pay particular attention to what are usually critical periods or turning points in the life history. In the adult these are educational experience, marriage, choice of a vocation, financial stresses, or other events which may represent the emotional and intellectual crises in human relations. In the case of the child, the critical points are the birth into the family of younger children, neighborhood contacts, breaks in the family, extended absences from home, loss of parental affection, changes in attitude to parent's occupation or social position, and so on. In all of this the interest of the psychologist does not differ materially from that of the sociologist except for the emphasis that is placed on the nature of the individual. The psychologist's concern is to estimate, if possible, the effect of environmental stresses on human material of certain fiber and constitution. In other words, *the psychologist recognizes that in every problem of conduct there is involved*

[7] Young, Pauline V., *Interviewing in Social Work,* McGraw-Hill Book Company, New York, 1935. See particularly chapters III and IV.

[8] C. M. Louttit (*Clinical Psychology*) gives a sample series of psychodiagnostic blanks in use at the Indiana University Clinic. These, if filled completely, would entail over 150 entries with regard to family and home conditions, developmental history, physical examination, test performance, etc. Experience leads to the plan of recording only the information relevant to each case, thus keeping the labor of filling out blanks at a minimum.

a nature charged with certain dynamic tendencies, modified or controlled by a certain degree of intelligence, operating in a certain kind of situation. He must never forget that these three phases of the problem all need evaluation.

The Psychiatric Approach. The technique of the psychiatric interview also possesses invaluable leads for the psychologist. He should know enough of psychiatry to be able to recognize the signs of unresolved conflicts, such as emotional disturbance, abnormal trends in behavior or attitude, feelings of guilt, excessive anxiety, unreasonable fears, nervous tics and habits, stereotyped actions. In his study of the dynamics of behavior he should learn that weight must be given to the effect of fantasies, to compensatory reactions, to awareness of organic inferiority; he must be familiar with the mental mechanisms of self-deception, rationalization, evasions, concealed or subconscious motivation, and the like. He should appreciate, among other things, the paramount need of the individual for self-justification and the fact that this need is met by all sorts of stratagems and devious courses in reasoning, the unraveling of which may call for much patient effort. The practicing psychologist may be handicapped by lack of time in investigating the individual's complaints and attitudes as fully as does the psychiatrist, but this does not mean that he undervalues the importance of this approach. He recognizes fully that these mental quirks and aberrations are in lesser degree characteristic of the thinking of normal subjects as well as that of the psychoneurotic.

Psychological Techniques. In addition to considering control of emotion arising through interference with or frustration of drives, or the stress of unresolved con-

flicts, the clinical psychologist must by means of his own techniques take some account of the individual's ability to analyze and see the social implications of situations, to show insight and understanding in his relations with other people, to use planning and prevision in foreseeing the consequences of his acts. These latter traits are functions of intelligence, rightly defined. If the psychotic tendencies are so pronounced as to dominate the clinical picture, then the case is one for the psychiatrist, and the psychologist should know enough to recognize it as such. If, however, the personality falls within the normal range of deviation and the psychological approach affords the means of exploring that personality, then the psychologist should undertake the task. The matter of professional responsibility may turn wholly on the question: Is medical treatment necessary? As to therapeutic methods, whoever has the best means of study of the case in hand should apply them, whether they be labeled psychiatric or psychological.

How important intelligence is from the standpoint of treatment is shown by the simple fact that the therapist, whether he be psychologist, psychiatrist, or social worker, in his efforts to change the trend of a person's behavior seeks ultimately to change his thinking. But quite outside the mental hygiene field, all of us are constantly wrestling with other people's intelligences, trying to change their convictions, attitudes, principles, or emotional set. They may be anarchists, criminals, religious zealots, or merely people who differ from us in their opinions on minor problems; we are continually engrossed in our efforts to persuade or reason them out of the beliefs or activities that are distressing to us. In less democratic societies than ours there are more direct and

drastic ways of dealing with political or social opponents than by reasoning with them. Even in psychoanalytic treatment, the ultimate appeal is to the intelligence of the person studied. Mental catharsis would be valueless if it were not followed by mental reconstruction.

This does not mean, of course, that reason is always triumphant and that right thinking means right living. Matthew Arnold has said that conduct is three fourths emotion, and perhaps an even larger proportion of social behavior is ruled by prejudice, fear, anger, envy, and overenthusiasm; but, notwithstanding this fact, there is in each one of us a conscious endeavor always to bring our thinking and action back to the plane of reason. Perhaps the best proof that intelligence is the ultimate court of appeal is shown by the devices we adopt to satisfy its demands. There is no knowledge more commonplace than the fact that there goes on within every one of us a constant interaction and adjustment between the desiring, striving, emotional, dynamic side of our nature and the perceiving, cognitive, judging part of us.

Psychological Studies of Conduct. If intelligence is of such importance in human conduct, then the psychologist must be prepared to study it in a far wider field than that of intellectual abstractions. Owing to a too narrow definition of *intelligence,* the measurement of intelligence was once thought by some to be synonymous with the application of a Binet test. This unwarranted assumption has had unfortunate results, one of them being the subordination of so-called clinical psychologists to the status of mere technicians. If this were the sole effect, its correction might safely be left to time and a better understanding. But much more serious results of this overdependence on a restricted approach have been wrong

or inadequate diagnoses, leading to the impression that the psychologist has little to contribute to the understanding of delinquency and crime, or even to the study and treatment of less serious conduct disorders. Properly equipped, the psychoclinician should be able to extend his testing techniques beyond the ordinary learning situation into the fields of temperament and emotion. At the same time, it cannot be too often emphasized that tests are merely aids to understanding.

Admittedly, it is a difficult matter to obtain good samples of emotional behavior and, when obtained, to analyze them correctly. The measurement of emotional trends by means of trait inventories is like the proving of ground for its oil-bearing quality. We must know where to sink our shafts and to what depths to sink them. But it is extremely difficult in the test situation to reproduce the conditions which call forth emotion in everyday life. The experimental shafts we sink are apt to be too shallow to tap the emotionally charged stratum. But the difficulty of the task should be no deterrent, for the devising and using of objective measures seem to be, in this field as in others, the most scientific approach to the problem of understanding human reactions. So long as we are confined to the use of the subjective method—the method of insight—clinical practice, whether psychiatric or psychological, must remain an art and not a science. This does not mean that art is ineffectual, but success in an art usually demands long experience, and the skills gained are hardly transmissible by instruction. Any objective approach to our understanding of human conduct is of value, and in conjunction with intuitive skill on the part of the examiner it makes treatment less inadequate and ineffective. Progress in the provision of tests for social and

practical intelligence has been slow and has lagged behind achievement in measuring abstract intelligence and scholastic ability, but headway is being made. With further research, thorough understanding of the antisocial personality will be brought nearer.

In this respect mention should be made of the sociometric approach employed with fruitful results by Moreno.[9] This method is not one that can be applied in the examiner-subject relationship at the clinic, but through the co-operation of the teacher or institution head it may sometimes be used to supplement or correct the data of the psychological interview. Moreno's technique is essentially a mode of observing the interaction of an individual and a specific group in terms of attraction, repulsion, or indifference. By means of choices made by children with regard to preferred associates in play, work, school, or home, sociograms or relationship networks are plotted and through these social isolates or leaders can be easily recognized. Incidentally, the socially centripetal or centrifugal tendencies of the group may also be detected, and the stability of the organization may be determined. One of the difficulties of interpretation in terms of individual social-trait reactions would seem to be that the group as stimulus may vary according to size, nature of activity, competition among leaders, homogeneity, and so on. A thoroughly normal boy may be a social isolate among delinquents, while the leader may be socially a very undesirable person. One-to-one relationships, because they are so constant and undiluted, may differ from those established in a large group. Provided the constitu-

[9] Moreno, J. L., *Who Shall Survive? A New Approach to the Problem of Human Interrelations,* Monograph No. 58, Nervous & Mental Disease Publishing Company, New York, 1934.

tion and the nature of the group are known, the sociogram may be very revealing, and valuable reports may be obtained from group or even family supervisors. The child's reactions to the group in play, for example, may supplement data obtained in the play-therapy situation.

Testing Personality. One of the fundamental facts of which a testing program must take account is that personality is not to be viewed as a force or capacity that can be observed or measured by itself, but only in operation in particular social situations. As previously mentioned, we cannot speak of a person as having good emotional control or a weak will without specifying the situations in which he is either strong or weak. It was a most significant piece of insight which ascribed to the conquering Achilles a vulnerable heel. He was armed at all points but one. For most of us there are many joints in our armor. Obviously, we cannot test the individual in a great number and variety of situations. It is all the more necessary, then, to sink our shafts at the lowest levels, so that the samples of behavior which we obtain will be the most critical or revealing.

When we know the life history of an individual, it is not so difficult to select those incidents or acts which give the key to his character. In the testing situation it seems to be a cardinal principle to select for observation a piece of behavior which is so simple in execution as to be common to all of us and yet which involves complex human traits. The selection of similarly simple yet critical tasks in testing is analogous to sinking an oil drill at the lowest part of the field, where even a shallow shaft may tap the oil and cause it to flow on the surface. The reactions of an individual in a game, such as golf, for instance, often reveal most significant facts regard-

ing his character and temperament, even though the activity—hitting a ball with a club—is apparently a simple one. Unfortunately, there are few tests which enable us to observe the subject's reactions to failure or frustration.

The Study of Emotional Characteristics. However, there are some test approaches that give the psychologist an insight into emotional tendencies. In the Rorschach test, for instance, the subject is asked to tell what variously shaped and colored ink blots suggest to him. The responses are found to be colored with the emotional sets, with the deepest inhibitions, and with the characteristic ways of reacting to things and people. The blots may suggest to different observers different things—animate or inanimate objects, objects at rest or in motion, human or animal forms. We may respond to the blots as wholes or in small or large detail, or the color, form, and apparent texture may be the determining factors in our perception. Our previous experiences or dominant interests may be brought to light, or our characteristic temperamental attitudes.[10]

All of this goes to show that the stream of individual human acitvity is a *continuum,* so closely interfused that the past is never entirely swept away but is constantly represented even in such a simple situation as the perception of an ink blot. One could readily understand that training may determine what we see; for example, when an artist looks at a scene or a picture, his perception may be quite different from a layman's. But it is interesting to realize that one's likes and dislikes and his emotional history, perhaps his whole personality, also enter into his everyday perceptions. The continuity of the stream of

[10] For a fuller discussion of the Rorschach test see Chapter VIII.

mental activity is shown also by the word-association test, in which the subject is required to give a verbal response to certain stimulus words. Here again past experiences, especially those with a strong emotional coloring or content, exert an influence affecting the choice of a reaction word. For example, the response of most people to the stimulus word *hill* may be *valley,* but someone might answer *collision* or *accident* if he had had such an unpleasant experience on a hill. By means of such tests as the Rorschach, emotional tensions not otherwise apparent may be brought to light. This and other means of obtaining critical samples of behavior are discussed more fully in the chapters describing the clinical approach.

Research and Statistics. Even though literally millions of individuals have been examined by the best-known tests, the interpretation of the results is by no means certain. To determine the true significance of this huge body of data requires study and careful analysis; hence research should go hand in hand with clinical practice. The basis of research on any form of quantitative measures is statistics, and until test results can be expressed quantitatively, their value is diminished except in the hands of experts who have served a very long apprenticeship in their use. An essential part, then, of the clinical psychologist's equipment is familiarity with certain statistical methods. Fortunately, statistical analysis of test results has become a usable tool even in the hands of those without extensive training in mathematics, mainly through the efforts of psychologists who are mathematically inclined. Textbooks on the subject [11] have been issued, and it would be an inadequately prepared psychol-

[11] See, for example, Garrett, Henry E., *Statistics in Psychology and Education,* 2d edition, Longmans, Green & Company, New York, 1937.

ogist or educator who is not familiar with such mathematical concepts as the various measures of central tendency, probable errors and standard deviations, percentile ranks, validity, reliability of tests, correlations, and the like. The union of mathematics and psychology may have been merely a marriage of convenience, but its issue has been most fortunate. Educational and psychological statistics have gone far beyond the numerical tabulation and arithmetical analysis of data so characteristic of the earlier approach. Though the refined mathematical treatment of results cannot make up for roughly gathered or inaccurate data, the science of statistics has made a great contribution to psychology and is an essential part of the training of the psychoclinician.

This brief mention of some of the most usable clinical tools is merely in the nature of an introductory survey. The discussion of the application of the tools and the interpretation of the results come in later chapters, where the various diagnostic aids are dealt with separately. Enough has been said, however, to show that each clinical psychologist should have training in the laboratory, where all the processes of making and proving tests can be demonstrated. Only through this demonstration can both the values and the limitations of the tests be properly appreciated.

References for Chapter II

Anderson, John E., "The Methods of Child Psychology," Chapter I in *The Handbook of Child Psychology* (edited by C. A. Murchison), Clark University Press, Worcester, Mass., 1931

Crothers, Bronson, *A Pediatrician in Search of Mental Hygiene,* Commonwealth Fund, New York, 1937

Fenton, Norman, *State Child Guidance Service in California Communities,* California Bureau of Juvenile Research, 1938

Horney, Karen, *New Ways in Psychoanalysis,* W. W. Norton & Company, Inc., New York, 1939

Hubbard, Ruth M., "What Constitutes a Psychological Examination," *American Journal of Orthopsychiatry,* January, 1940

Moreno, J. L., "Inter-personal Therapy and the Psychopathology of Interpersonal Relations," *Sociometry,* Vol. 1, 1937

Porteus, S. D., and Babcock, Marjorie E., *Temperament and Race,* Richard G. Badger (now associated with Chapman & Grimes, Inc.), Boston, 1926

Symonds, P. M., *Diagnosing Personality and Conduct,* D. Appleton-Century Company, Inc., New York, 1931

——, *Psychological Diagnosis in Social Adjustment,* American Book Company, New York, 1934

Thomas, W. I., *The Unadjusted Girl,* Little, Brown & Company, Boston, 1923

Wallin, J. E. W., *Clinical and Abnormal Psychology,* Houghton Mifflin Company, Boston, 1927

Wells, F. L., *Mental Tests in Clinical Practice,* World Book Company, Yonkers, New York, 1927

CHAPTER III

Biological Basis of Clinical Psychology

Terms Used in Clinical Description. Before proceeding with any detailed discussion of clinical methods, it is necessary to review briefly some of the general concepts regarding mental functioning that the clinical psychologist may find useful in his thinking and practice.

A considerable part of the psychoclinician's interpretations of behavior is made in terms borrowed from other sciences. It seems advisable, therefore, to attempt to find out what this verbal currency is worth in terms of psychological exchange. Some of these borrowings are in the nature of forced loans from medical practice, as *clinical* and *diagnosis;* others, like *analysis,* representing a psychological description of a person's individuality and mental situation, and *measurement,* denoting estimates founded on objective testing of his mental capacity in different situations, are taken directly from the physical sciences. However, these terms are so commonly used and are such a definite part of the psychologist's vocabulary that he rarely thinks of them as borrowings. They are so useful that no justification for their employment is needed. But there are other terms, such as *integration, neural patterns, inhibitions, circular responses,* and the like, which have been adopted from neurology or biology, whose status is somewhat vague. For example, one often reads of a nerve path in the brain without inquiring as to what the pathway is or how it was made. Another glar-

ing example of the way in which a biological term became current in psychological usage without a strict examination of its applicability to human behavior is the use of the word *instinct,* which, like *charity,* came to cover a multitude of sins of assumption and ignorance. On the other hand, the psychologist cannot do without some working hypotheses founded on biology and neurology. Equipped with these, he will beware of using blindly such concepts as "the unconscious mind" and "the racial unconscious" unless they can be fitted into an acceptable neurological framework.

Diagnostic Labels. The application to an individual of the diagnostic label "disintegrated personality" means little unless the diagnostician is prepared to say in what respects or in what directions the disintegration has taken place. *To integrate* means "to completely unify," or, in common dictionary meaning, "to form into one whole," "to make entire," "to make perfect." Completely unified action does not take place except at the level of the unicellular organism, in which there is no apparent differentiation of function, all parts being equally sensitive and all equally contractile. The organism above the unicellular level rarely, if ever, acts as a whole, but its activity is the expression of a sequence of co-ordinated movements, some of which, as in muscular action, are opposed or balanced against one another. Hence an individual is never unitary or completely integrated in action. If he is sleeping, talking, working, walking, copulating, or studying, a different organic rhythm is involved in each activity. An individual life is a drama played by many actors, and only rarely, if ever, are all the actors on the stage at the same time. With each variation in activity the emphasis changes, the spotlight shifts. Hence we must

be careful not to assume too much when we speak of "dealing with the integrated personality" or "treating the whole child." What we probably mean by that familiar injunction is that we should observe the individual in a number of situations, over a sufficient period of time—a very important rule in clinical practice. It is not sufficient to note the child's reactions to a single set of stimuli. *Disintegration* is too sweeping a term to apply to a personality, and poor co-ordination of certain responses or disharmonious adjustment of specified organic needs constitutes a much better description of the inadequately functioning organism.

Another overworked term taken over from psychiatry is *frustrated*. Here again we have the right to demand information as to the directions or the situations in which the individual is prevented from attaining his goals. Certain tendencies or phases in conduct are recognized as compensatory in nature, as when a boy deprived of social recognition because of scholastic inadequacy devotes all his attention to athletics. The concept is a useful one, but we must beware of assuming that negative and positive characteristics are necessarily balanced so that a strong tendency in one direction is an index of weakness in another. Extreme conscientiousness and attention to detail in work does not always arise through a sense of guilt for lapses in some other area of conduct. Similarly, an aggressive demeanor is not necessarily a sign of insecurity in social relationships. The bully is not always a coward, nor does the small man always attempt to compensate for his size by extreme reserve or dignity of manner. But there are plenty of examples of compensation and overcompensation. However, we must guard against the easily made assumption that exag-

gerated phases of behavior occur as counterbalances to some hidden weakness or insufficiency.

We have already referred to the loose application of the terms *instinct* and *instinctive activities*. A consideration of the simplest animal behavior will help to clarify our understanding of the term *instinct* in its application to human conduct. Our behavior, like our structure, is merely an enlargement or elaboration of the reactions of the amoeba.

The Fundamental Instinct and Organic Rhythms. If we observe the activities of such a simple, one-celled organism as the amoeba, we find that its behavior may be brought within the scope of one fundamental tendency or instinct, which may be formulated as follows: The organism tends to resist by every means in its power conditions or things which threaten its continued activity, and, conversely, it seeks by every means in its power the conditions or things which further that continued activity. Even reproduction may be brought within the scope of this description. When the amoeba has grown so that its movements are unwieldy, or when there is a period of scarcity, it becomes quiescent outwardly, but internally a process of division of its nucleus takes place. Then the organism breaks up into a number of free-moving units, a process equivalent to the division of its life capital and its reinvestment in a large number of active enterprises.

With multicellular development came differentiation of structure and the collection of cells of like function into organs. These organs continue, however, to exhibit the same basic tendency to pursue the functions for which they were fitted. Obviously, all these organs cannot be active at the same time. Each has its appropriate rhythm of work and rest, and this requires harmonious adjust-

ment between one organ and the rest. Thus each organ or group of organs is thrust into a directive or prominent role, according to the need of the moment. If, for example, it is of paramount necessity to run from danger, the heart and lungs and parts of the glandular system are mobilized and speed up their activity to make running away a more efficient business. Disturbance of the accustomed rhythm either through overactivity or lack of opportunity to function causes distress. It seems that the more rapid the rhythm of activity, the more readily we receive the warnings of overactivity, or its reverse. Thus we are speedily made aware of the fact when we have run too far or have used any set of muscles too vigorously, but it takes a longer time for us to realize that we are hungry or that the sexual function has been repressed or overexercised. As for those activities that have a social end or purpose, the results of malfunctioning are so long deferred that we have great difficulty in becoming aware of our faults. The audience usually realizes that the speaker has talked much too long before his own vocal cords and muscles register distress. All this may sound extremely obvious and may hardly be worth emphasizing except for the fact that it illustrates the view that all our activities are merely elaborations of the fundamental tendency of every part of the organism towards seeking a continuance of its specialized activity. Since the stomach cells do not require to be taught to secrete, nor the heart to beat, nor the intestinal muscles to bring about peristaltic movements, nor the face muscles to express pleasure or pain, it follows that all our activity has an instinctual basis. There seems, then, no force in the dictum that habits rather than instincts are important in man's development, since the habits themselves seem

to be merely an artificial quickening or speeding up of the rhythm of instinctive reactions. On the other hand, there seems no special point in breaking up the fundamental tendency of living matter into individual unlearned activities—of which there must be hundreds—and designating them as specific instincts. One fact of importance may be high-lighted by this discussion, namely, that what has been called a sane and balanced reaction to things and conditions means a proper and harmonious adjustment of organic functions.

The foregoing description of the organic urge towards functioning or life service accords well with what Jastrow calls the Müller theory of instincts. He says:

> The Müller theory of instinct is remarkably simplifying. It reads, on my own formulation, that the nub of an instinct is the urge to use an organ. . . . Having that organ—the hand—we have the urge to use it. It is the hand-using instinct. . . . It is obvious that nature does not create an organ without implanting in the organism the urge to its use, together with a bit of a recipe how to use it. The sex instinct is as clearly focused on the use of an organ, with a powerful urge behind it. If we had horns, we should have a butting instinct; kids display the urge even before the horns sprout. The marvel is in the organ; the recipe—the set of instructions in organic terms—goes with it. Such is the core of instinct; its radiations are endless.[1]

These comments, published in 1935, provide the same simplification of the vexed subject of instinct as that attempted by Porteus in 1929.[2] The concept is important because upon it depends a whole psychology of adjust-

[1] Jastrow, Joseph, "The Current Chaos in Psychology," *The Scientific Monthly,* August, 1935, p. 107.

[2] See Jones, F. Wood, and Porteus, S. D., *The Matrix of the Mind,* Chapter XLIV, p. 295.

ment. Social and individual maladjustment are due to various imbalances in the fulfillment of the basic urge of organic functioning.

The question arises as to what steps the clinical psychologist may suggest to remedy a lack of balance with regard to functional needs and their expression. Obviously, before any help can be given, there must be a careful study and analysis of the individual's needs and capacities. One of the methods of treatment may be the removal of the individual from the environment that provides a too constant stimulus of a specific kind so that a certain rhythm of activity is abnormally quickened, or to change his internal environment so that other functions come more frequently under the spotlight of attention. This process has been called by psychoanalysts *sublimation,* but this, as shown later, seems to be an erroneous characterization. It is a mistake to think that we can get rid of hunger by substituting recreation for food, nor do we really purify the mind by flagellating the body. All that we accomplish by these devices is to displace one set of organic activities by another. But this is substitution, not sublimation. This matter of a natural rhythmic activity or one that is stepped up by usage is discussed further in a later chapter, as are also the general principles of therapeutic treatment.

The Relevant Stimulus. Another biological concept that would seem useful in the practice of clinical psychology is the *relevant stimulus*. The use of this term in place of the more common *adequate stimulus* was proposed by Porteus in 1929,[3] with evident advantages. It may be explained as follows:

[3] Jones, F. Wood, and Porteus, S. D., *loc. cit.*

From among the vast number of potential stimuli that any given environment holds, there are certain ones that either as a result of the experience of the species or through individual learning seem to have the right of way over the nervous system. To all the rest the animal seems entirely oblivious—they do not fall within its repertoire of responses or circle of activities. The selected stimuli are those which most directly further the life functions of the organism and thus subserve its organic rhythms. Hence relevant stimuli may be defined as those stimuli which fall within the organism's effective range of response and to which it is biologically advantageous for the animal to attend. The term *adequate* applied to stimuli suggests a certain degree of intensity; however, it is not the intensity of the stimulation but rather its meaning that determines the response. The report of a gun would be a very intense stimulus to a man, but I doubt very much if it would make a snail hurry. In snake-infested country a slight rustle in the grass may be more relevant than a thunderclap. That intensity of the stimulus is not proportionate to the reaction is shown by the extremely ludicrous, if tremendous, response evoked in a man by a slight, unexpected prick of a pin from behind. The neural reaction to a stimulus of such potential relevancy is a mass or widely diffused response accompanied by acute emotional effects. It is this utterly disproportionate response to a slight prick judiciously applied that makes the situation so funny. Similarly, the sudden appearance of a friend who has been hiding behind a door brings forth a very decided and disproportionate "startle" response.

The involvement or mobilization of the whole physical mechanism in a situation that we feel to be extremely rel-

evant is exemplified by the bodily attitudes when we fixate our attention on a difficult problem. The brow is knit, the eyes fixed, the hands may be clenched, the whole body is tense. These are the outward reactions, while those less overt but not less important include changes in pulse rate, respiration, blood pressure, and so on. It is remarkable how quickly this tension is relaxed once the solution of the problem is reached.

The Mechanism of Increased Relevancy. The manner in which a certain situation gains relevancy seems to conform fairly closely to the general laws of learning. At least the two factors of frequency (exercise) and effect are of importance. The more we think of a situation, the more important it becomes. As we have seen in our previous discussion, the remedy for lack of balance in organic needs and their satisfaction is to shift the spotlight of attention. Whatever is thus attended to gains in relevancy. There is a circular effect involved, for the more we realize the relevancy of a situation, the more we think about it, and vice versa.

This fact is of clinical importance, and as a matter of fact the principle is recognized in popular thinking. We say that we think a great deal of a person to whom we are affectionately attached. Here again is the familiar circular effect—we think a lot about people we love and we love them because we think a lot about them. The fact that frequency of response to a stimulus confers relevancy is a useful guide in consciously adjusting to new situations. It explains why work is the best anodyne in cases of extreme disappointment or deprivation. We should indeed be at a loss if we could not deliberately crowd memories or thoughts from our mind by engaging ourselves with other systems of relevant stimuli. Fortu-

nately, we do not have single-track minds, so our fears may be overcome, our anxieties lessened, and our losses borne by diverting our attention towards other extremely relevant situations.

The emphasis, one should note, must be placed on the qualification "extremely relevant." In many cases attention is ineffectively diverted to much less relevant systems of response. Kimball Young,[4] for example, instances "escape methods when the individual has suffered a severe disappointment or loss." Instead of facing the reality of such a situation and reorienting one's life on a new level, there is an attempt to put the images and feelings out of the mind through an appeal to a round of parties, dances, drinking bouts, drugs, sexual indiscretions, even suicide —anything immediately at hand. With the exception of suicide—which, after all, is a most decisive act, however else we regard it—these efforts at escape fail because of their ephemeral nature. None of them requires the sustained attention and effort that work demands and hence is not so effective. Young also quotes with approval Professor Sherman's dictum that what a man's nature craves "is something good and great that he can do with his heart and mind and body." This is really what we mean when we say that he must transfer his attention to some really relevant situation.

The Circular Response as the Basis of Learning. Another useful working hypothesis is that of the circular response, which helps us to understand how the bond or connection between the relevant stimulus and the adequate response, once established, is strengthened. This fact—that once an adequate or successful response has

[4] Young, Kimball, "The Integration of the Personality," *Pedagogical Seminary and Journal of Genetic Psychology,* Vol. XXX, 1923.

been made, the next successful reaction comes easier—is Thorndike's law of effect. We can state it in other terms by saying that success acts as a satisfier, failure as an annoyer. An explanation of this condition is available if we assume that every successful response is in the nature of a circular response. Healy recognizes the value of this concept when he states that "many factors that enter into the shaping of personality can only be known through taking into account the principle of the circular response. The individual is always doing something to his environment; his environment is constantly doing something to him: to the latter he responds with a further reaction, and in turn the environment also shows a reactive response." [5]

The response that Healy describes is one in which the circle involves a succession of stimuli, some of which are external to ourselves. Allport [6] shows how the system may become centered in the individual. He describes a baby exercising his vocal organs by saying "da-da-da." The sounds are conveyed to the ear and thence along the auditory nerve to the hearing center of the brain. From there the excitation irradiates or flows over to the nearby center for speech, which is still excited with the impulse to say "da-da-da." This reinforced excitation sets the whole mechanism going again, and thus we have the basis of self-imitated reactions or the repetitious babbling of infants, which by a shift of association becomes language. This associative shift takes place when the image of the father and the sound "da-da-da" are presented simultaneously. In time, the image of the father becomes

[5] Healy, William, *Personality in Formation and Action,* W. W. Norton & Company, Inc., New York, 1938.

[6] Allport, F. H., *Social Psychology,* Houghton Mifflin Company, Boston, 1924, p. 182.

part of the circle of response. In clinical practice we meet with the phenomenon known as echolalia in which the child repeats, parrot-fashion, anything that is said to it without apparent comprehension. In this case the circle of response is closed, so that the bringing in of visual images within the circle of association is not possible. In the congenitally deaf the circuit is broken at the point of auditory stimulation, so that the child, though not completely inarticulate, cannot learn to talk. Once the gap in the circle is filled, as through tactile stimulation, even the deaf may learn to speak. At this point we would make the important suggestion that *all successful or appropriate reactions to stimuli are circular responses and all nervous impulses that do not complete a circuit tend to be dropped from the repertoire of behavior.* If we accept this hypothesis and think of all successful or adequate responses as circular reactions, we can obtain a much clearer understanding of the learning process. Because the theory is applied in later discussions of clinical problems and procedures, some further elaboration of the concept seems warranted.

Neural Mechanisms of the Adequate Response. The neural mechanisms, if simply illustrated, may help to make the matter clearer. Let us suppose that a child is learning to catch a ball. At first the youngster cups his hands and watches them instead of the ball in flight. So when the ball reaches his hands, the grasping response is too late. Later on, he learns to watch the ball and thus to anticipate the grasping reactions. The ball-in-flight stimulus sets off these muscular-tactile responses, which are directed towards intercepting and seizing the ball. Movements of eye and hand are so integrated or co-ordinated that the clutching reactions begin just at the point

of contact, and this co-ordination must, of course, take place in the brain. This is an ordinary description of what takes place, and it differs from the circular response already described. But the parallel is complete if we assume that the areas of the brain that mediate clutching and holding the ball are pre-excited, so that the impulse to clutch is in readiness to be conveyed to the muscles before the ball actually reaches the hand. These anticipatory excitations of the areas that have to do with the proprioceptive or musculo-tactile-kinesthetic sensations constitute, then, what is called "readiness to catch." As soon as the ball is caught, the proprioceptive sensations are relayed to the already excited sensory area. The reinforced stimulation then flows over to the motor area, thus strengthening the connection and making the same response easier the next time the ball-in-flight stimulus presents itself. The neuromuscular sequence is as follows:

(1) Anticipatory excitation of the sensory area that has to do with the seizing of the ball.

(2) Anticipatory excitation of the motor areas that have to do with catching. (1) and (2) constitute readiness to catch.

(3) Perception of the ball in flight.

(4) Proprioceptive impulses (tactile, kinesthetic, and visual), resulting in the simultaneous excitation of the motor and sensory brain centers.

(5) Irradiation of excitation to and from each brain center, making the connection between the areas stronger and more specific.

Unsuccessful attempts to catch, since they do not result in a simultaneous excitation of the motor center for catching and the sensory center for holding, do not set

up a two-way reinforcement of the bonds between the centers. The circle is broken just as it is for the hearing of speech in the deaf, and there are no bonds to be strengthened and no further effects. Figure 1 gives a representation of the learning process and its neural basis.

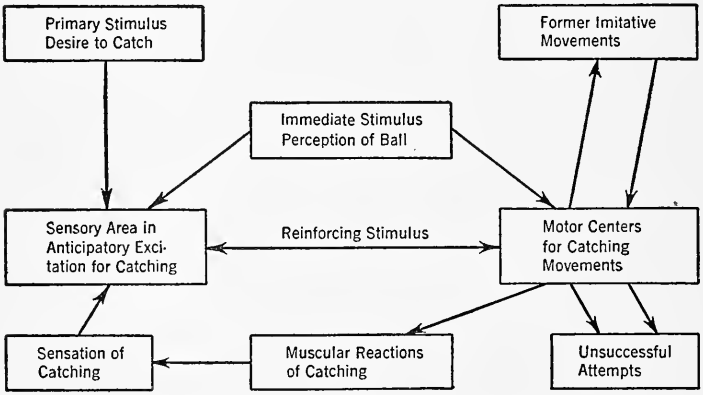


FIGURE 1. Representation of Circular Response in Catching

Explanation of Figure. The design illustrates the neural connections involved in the child's first successful attempt at catching a ball. The primary stimulus may be motivated by the approval of others, the immediate stimulus being the perception of the ball in the air, which results in an excitation of the motor centers for the catching movements. These are already patterned in imitation of the movements of others or as a result of previous grasping activities. The successful attempt gives the sensation of grasping the ball and this is communicated to the sensory area already in anticipatory excitation. From this area the stimulus is conveyed to the motor center, thus completing the circuit. The theory here set forth combines the features of Thorndike's views of "belongingness" and the closure hypothesis of the configuration-

ists. Well-retained habits involve connection of areas where there is a vast proliferation of nerve fibers.

How Neural Pathways Are Formed. At this point we need a theory regarding the nature of the bond or connection between one set of nerve cells and another. What is a neural pathway and how is it formed? Perhaps the transmission of nerve impulses is best explained by reviving an idea first suggested, probably, by Cajal. As is well known, there is a tremendous proliferation of the dendronic processes, which are given off by neurons or nerve cells so that these tiny and innumerable branches, while not in actual contact, lie in extremely close juxtaposition. If we make the extremely probable assumption that nerve cells and their processes have not lost a characteristic of all cells, namely, contractibility, then a stimulus passing along one system of nerve processes could establish contacts with those of adjacent systems in much the same way that tugging at the free end of a tangled skein or fishing line tightens the knots and makes the tangle harder to unravel. This theory accords well with clinical observations with regard to the maturation of mental abilities such as rote memory, which proceeds *pari passu* with the growth in brain capacity, which in turn reflects the increased proliferation of nerve processes. In areas where the structure is simpler, a single impulse is insufficient to bring about a response; but with repeated stimulation, enough contacts are made to bring about a motor reaction. This is evidently what occurs in the case of the latent or deferred reflex. Acceptance of this "contact-through-contraction" theory would explain satisfactorily not only the effects of practice but also the phenomenon of forgetting. With disuse

the synaptic gaps gradually widen until disassociation occurs.

It is not suggested that the establishment of contacts between dendrons is the sole factor in the conduction of nerve impulses. But whether chemical changes at the point of contact, or differences in electric potential on each side of the synapse, or ionic changes in the communicating membranes take place—all of which have been suggested as explanatory principles—actual contact will facilitate conduction, no matter what the nature of that conduction may be. Kappers [7] and others have recognized the importance of spatial relationships of nerve fibers and have suggested growth as stimulated by electric currents as the central point of their theories. The principle of dendronic contractility still leaves room for other theories regarding the actual nature of the impulse.

Neural Canalization. To take another brief excursion into the field of neurology, let us try to explain why, after an exercise or mental operation has been learned and forgotten, it can be relearned with less than the original effort. This has been described as a process of canalization, without explaining what is canalized. Other theories state that previous experiences leave "traces," but they are similarly vague as to the nature of the traces. Similarly, we speak in clinical expositions of neural paths or patterns without stating how the pattern is held together.

Strangely enough, we have tended to disregard a very simple mechanical explanation which, in conjunction with the enmeshment through contraction theory, should meet the problem. Nerve cells and fibers are embedded in a

[7] Kappers, Arien, "Further Contributions to Neurobiotaxis," *Journal of Comparative Neurology*, 1917, pp. 217-298.

matrix of non-nervous cells called *neuroglia.* Probably canalization takes place not within the nerve cell but in the neuroglia. That is to say, repeated contractions of the nerve fibers have the effect of molding the neuroglia into a pattern, so that even though interneuronic communications are broken through disuse, they can be more easily re-established. Cajal [8] has already suggested that ameboid movement of extension and retraction reduces insulation of nerve fibers by neuroglial cells. This is similar to the theory advanced here, except that *contraction* is substituted for *ameboid movements,* since these movements would naturally be too slow to account for ordinary reactions.

There have been various objections to the theory of specific nerve paths, one of the more serious being dependent on the fact that habits of action can be re-established even when the areas in the cortex subserving them are extirpated. But the setting-up process is a matter of re-education and this merely proves the plasticity of the nervous system.

Of more weight is the objection that rests on transfer of training, as, for example, when a complex activity learned by one hand is transferred to the other, which had been immobilized in the training period.[9] It should be recognized that a large part of the circuit of response is within the brain, particularly the setting up of those anticipatory excitations in the sensory and motor areas which represent readiness to respond. For example, once we have learned the position of a letter on the keyboard

[8] Cajal, S. R. (quoted by Lashley), "Nervous Mechanisms in Learning," *Foundations of Experimental Psychology,* 1929, p. 557.

[9] These objections to the specificity of nerve paths have been set forth by K. S. Lashley in *Brain Mechanisms and Intelligence,* p. 542 ff.

of a typewriter, which hand we shall use as the striking agent is not important. The situation can be summed up as the neurological principle that "movements, not muscles, are represented in the cortex." [10] (See Figure 2.)

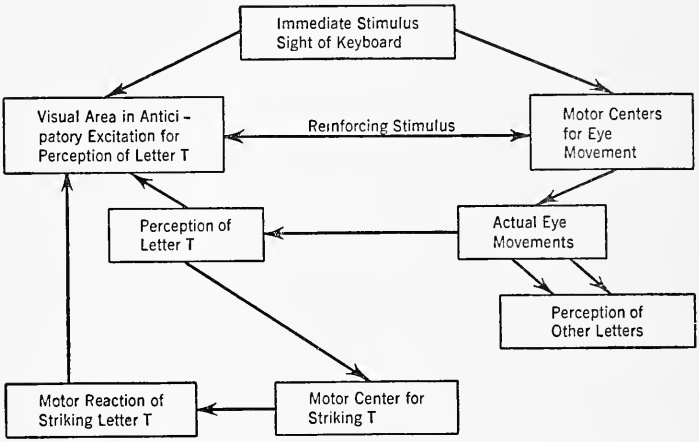


FIGURE 2. Neural Mechanisms Involved in Typing

Explanation of Figure. This figure illustrates the point that the actual striking of the key is not an integral part of the learning process. If the individual has been trained to strike the letter with the one hand, there can be some transfer of training to the other, since this requires a change in only one part of the neural circuit.

Verbal Rehearsals and Neural Circuits. Before leaving this subject of circular responses, it should be pointed out that a verbally rehearsed reaction to a situation may precede the overt response and that this rehearsal is in the nature of a short circuit. (See Figure 3.) We use the term *short circuit* advisedly since the neuromuscular

[10] Jones, F. Wood, and Porteus, S. D., *loc. cit.*, p. 169.

pathways involved in the verbal rehearsal are shorter than those used in the actual response. Only by initiating an anticipatory solution can the cortex act as an organ of delayed choice. Once the stimulus is presented, there can be no holding of a response in complete abeyance, and the immediate reaction is the mental rehearsal.

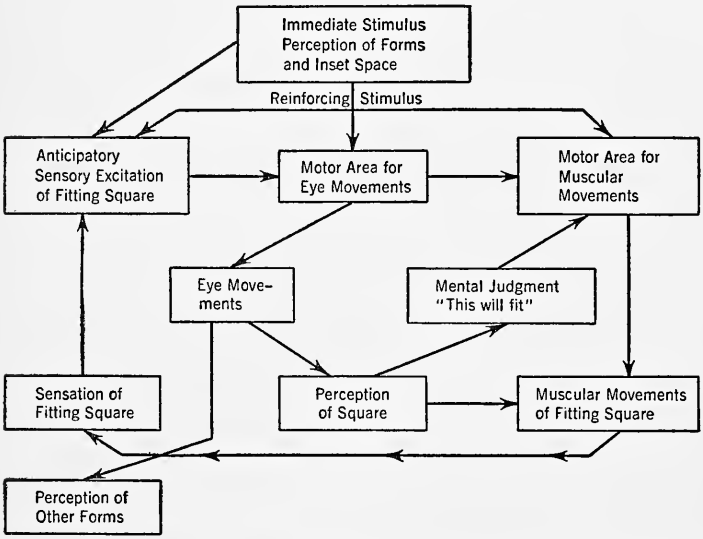


FIGURE 3. Verbal Rehearsal of Mental Solution of Form-Board Problem

Explanation of Figure. This figure shows how mental rehearsal resulting in a verbal judgment (perhaps unvocalized) enables us to strengthen the reaction and eliminate trial-and-error methods. Two circuits of response are involved: A, which subserves the verbal rehearsal, and B, the actual operation of fitting the square block in the square hole. The pathways involved in A are, to a large extent, part of neural circuit B.

In very complex problems the verbal trials and solutions —which are themselves in the nature of circular responses—may take up considerable time. The ability of the individual to inhibit overt action until a mental rehearsal is complete and successful is basic to planning and is such an important cortical functional activity that it has been made, as shown in later chapters, the basis of an examination procedure or test. Obviously, the cortex cannot act as an organ of delayed choice unless delay in choosing has become habitual in the individual. On the other hand, inability to carry on successful mental rehearsals may be so extreme as to amount to inaction and mental confusion. Generally speaking, we have little difficulty in delaying responses and carrying out verbal rehearsals of action in the case of intellectual problems. When emotion is involved, however, the matter of planned responses is much more difficult. This situation can best be understood by a consideration of the interaction of the cortex and the thalamus.

Relations of Cortex and Thalamus. The thalamus is the highest center (the lower centers are in the spinal cord) for the cruder protopathic, affective, unaesthetic, indiscriminative components of feeling tone. When the cortico-thalamic fibers are interrupted by injury or disease, the patient retains sensation on the opposite side of the body but loses the power of finer discriminating response. He cannot judge of weights or pressure or of the form or texture of objects examined by touch alone, and he loses his appreciation of the position in space of the limbs on the affected side. Upon these abilities is dependent the stereognostic sense. Thus we see that human behavior is mediated by a system of hierarchies and that the further along its own pathway of response the

center of sensori-motor co-ordination is, the more discriminating the reaction will be. The cortex is the final court of appeal.

But the cortex has another part to play besides exercising the above-mentioned forms of sensory judgment. One of the great functions of the neopallium or cortex appears to be that of control or inhibition of the activities of the lower nerve centers. Remove this inhibitory influence by interrupting the cortico-thalamic nerve paths and the quality of sensations changes. When this thalamic release is brought about, there is great exaggeration of feeling tone. A prick of a needle on the affected side carries with it a feeling of intolerable unpleasantness. It is felt not as a localized sharp prick, but as a widely diffused sense of great discomfort. Pressure, also, is not felt normally but soon reaches a point where it seems intolerable. Hence with the removal of cortical regulation, feeling tone is stepped up to a pitch of great intensity.

The Thalamus and the Emotions. Cannon [11] and his co-workers have contributed most to our understanding of the role of the thalamus in emotion. Cannon points out that this part of the brain has direct connection with the viscera and skeletal musculature on the one hand and the cortex on the other. In an emotional experience, therefore, we are conscious of visceral reactions, of changes in bodily posture, and of a greatly sharpened attention directed towards the situation. If the cortex is cut off, feeling tone is exaggerated. On the other hand, Bard [12]

[11] Cannon, W. B., "The James-Lange Theory of Emotions. A Critical Examination and an Alternative Theory," *American Journal of Psychology,* 1927, pp. 106-124.

[12] See Philip Bard's contribution in Chapter VII, p. 473, of *Foundations of Experimental Psychology* (edited by C. A. Murchison), Clark University Press, Worcester, Mass., 1929.

has shown that if a small portion of the thalamus (the diencephalon) is removed, all emotional behavior disappears. The implications of these statements are obvious. Fear, rage, and love seem to have their neural basis in thalamic functions, and since these seem at certain times quite unrestrained, we must assume that the dominance of the cortex over the thalamus is only partial and that it takes some time for the inhibitory effect to establish itself. The cortex may be able to establish its control only after repeated impulses have set up sufficient connections with the thalamic neurons to bring about an inhibitory effect.

Another perhaps equally plausible explanation is that a violent or rapidly repeated stimulus may have the effect of actually widening the synapses.[13] In other words, contractility may have a twofold result: it may disrupt already established connections and it may establish new contacts. For this there is some supporting evidence. For example, it has been observed that an extremely rapid succession of stimuli to a muscle already in contraction has the effect of suddenly bringing about relaxation. Something of this nature may occur when we are under the influence of an extremely powerful emotion. The neural circuit which normally exists between thalamus and cortex may be disrupted by the violence of the stimulus. For the time being the thalamus is relieved from the restraint of cortical action. We are, as we say, beside ourselves with rage, or prostrated with grief, or overcome with joy, as the case may be. The theory here advanced is, of course, merely tentative, as the mechanism of inhibition is—for the present, at any rate—beyond the reach of experimental demonstration. While

[13] A similar suggestion has been advanced by Hulsey Cason (1924).

this is the case, the theory that fits in best with existing observations may claim tentative acceptance as a working hypothesis.

The Cortex as an Organ of Delayed Choice. It must be remembered that the story of the development of the human brain is a very long one and that obviously much of this development was not essential for mere survival at a lower level of behavior. But the cortex, as the last-developed neural mechanism, has not yet established its complete dominance over the lower centers. In emergencies such as imminent threats to life, these lower centers may, so to speak, take things into their own hands and act without reference to the cortex. Thus we have the almost immediate reaction of the spinal reflex. So, too, thalamic release may have a potential life-saving value. When crises occur, reaction can then take place at an automatic level. In snake-infested country it pays the hunter to jump first and think afterwards, when he perceives anything that looks or feels like a snake. To jump ten times unnecessarily may be better than not to have jumped at all. The matter is well put by Franz and Gordon [14] when they say: "The sympathetico-adrenal pattern (through which the thalamus acts) unfortunately does not guarantee that the individual will react appropriately. All it decrees is that whatever he does he will do with unusual energy and vigor." In other words, planning does not go with subcortical functioning.

Though the cortex is the organ of delayed choice, there are occasions when we cannot afford the delay. Second thoughts are commonly long thoughts; in other words, it takes time to marshal the effects of past experiences

[14] Franz, S. I., and Gordon, Kate, *Psychology,* McGraw-Hill Book Company, Inc., New York, 1933.

and to make a reasoned judgment. We are all familiar with the ill effects of snap judgments from which issue actions that can never be recalled. The temporary release of the thalamus from cortical domination may be a life-saving mechanism, and it probably takes place through some disruption of established pathways. In ordinary life, thalamus-mediated anger and fear are harmful to personal relations, but the individual who lacks the capacity for either fear or anger would, under critical circumstances, have little chance to survive. Only when the world is made utterly safe to live in can we afford to repress thalamic urges completely.

In the lower mammals impulses are conveyed directly to the striate body, which appears to initiate all movements that are innate and that do not depend for their successful completion on cortical awareness of the parts of the body. In other words, initiation of the skilled deliberative movements characteristic of human behavior comes from the cortex, while in the lower animals the striate body mediates the routine movements of walking, running, and swimming where these are unlearned or innate responses. In man, the striate body exerts a steadying or controlling influence on movement, and the effect of striate body lesions is shown in the condition known as *paralysis agitans*.

The Psychology of Emotional Behavior. (1) *Fear.* We now come to the psychological characterization of emotional behavior, and here the previously discussed theories of relevancy and anticipatory or rehearsed reactions have a decided bearing. Actually, the degree of readiness and the adequacy of the response seem to determine the quality of the emotional accompaniment. If a stimulus is presented which, on the basis of previous

experience, we recognize to be mildly relevant, then the lack of anticipatory excitation leading to an adequate response results in a feeling which we call perplexity or doubt. With a situation of greater relevancy we call the feeling anxiety. Fear is the emotion that accompanies a stimulus of great relevancy with no anticipated solution in sight. We hesitate between various courses of reaction and, if the relevancy of the situation is extreme, we may even become paralyzed with terror. A last despairing motor reaction is to shut our eyes to the danger in the effort to diminish the incoming volleys of stimuli which have no adequate path of response or discharge.

(2) *Anger.* There are other situations of extreme relevancy for which we may have in anticipation adequate responses if only we are not obstructed by circumstances or by opposition from other people. In cases of lesser relevancy this obstruction occasions a feeling which we describe as irritation, vexation, or annoyance. As the relevancy of the situation increases, the feeling changes to anger or rage. When children fly into fits of temper, the remedy should not be the removal of the obstruction, since that is often inadvisable, but the diversion of the attention to some other situation of equal relevancy. In adult life we also set up for ourselves new circuits of activity. As we say, we dismiss the annoying situation from our thoughts, though this dismissal is only possible by attending to another set of stimuli. In neuropsychological terms, we may say that in the process of gaining experience there are set up many circuits which have to a greater or less extent common paths. Problems demanding new adjustment may be met by inhibiting the inappropriate response and at the same time rerouting the excitation over other available pathways. A sim-

ple illustration is that of a man who wishes to make a good stroke at golf but makes a bad one. His first reaction may be one of extreme anger, but his feelings may be modified and their expression changed by the unvocalized verbal conclusion that he will suffer in the opinions of others if he throws his club on the ground. Part of his original incentive to play golf may have been to have others think well of him, and the contemplated action would lead away from that desired result. The thought that the action is beneath his dignity or that to play golf well is not so relevant as it seems is tantamount to opening up other related neural circuits leading to a response more appropriate than a childish bit of petulant behavior.

(3) *Sorrow and Happiness.* Other emotions may also be interpreted in terms of the availability of adequate responses to relevant stimuli. Remorse or regret is felt when, after an action is taken, the mental rehearsal of other solutions indicates that a much more appropriate path of response could have been chosen. Afterthought, "thinking it over," is the result of a residue of excitation, which spreads out into other circuits of responses and which may result in more appropriate anticipatory reactions that can be used if the situation recurs.

Sorrow is the feeling we experience not when there is active obstruction to our response, but when we are faced with the removal or absence of the person (or object) whose presence is essential to the appropriate response. Joy, appreciation, gaiety seem to occur when the response is felt to be more than adequate to the relevant stimulus. These feelings may be described as the result of adequacy *plus*. Loving and laughter are both characterized by an exuberance of response, so that we commonly

speak of transports or extravagance of joy. In many instances a feeling of happiness is associated with the lifting of the environmental load. The presence of the loved one about whom so much of thought has centered allows of such an outgoing of impulses and expressions of affection that our feeling of security of possession is increased enormously.

Emotion and Control of Situation. There is considerable experimental evidence for the theory that the quality of the emotion is dependent on the balance between the relevancy of the stimulus and the adequacy of response. Observations by Blatz and Millicamp [15] on the reactions of young children show that emotional states tend to diminish with increasing ability to control the environment or, as we would say, with the opening up of alternative circuits of response. Knowing what to do, that is, having anticipatory areas of excitation in connection with a response, lessens the emotional tension.

On the basis of similar observations, H. E. and M. C. Jones [16] state their conclusions in terms quite similar to our own. "Fear," they say, "arises when we know enough to recognize the potential danger in a stimulus but have not advanced to the point of a complete comprehension and control of the changing situation." The feeling of inner excitement subsides when an appropriate response is discovered. Stated in neural terms, the excitation becomes localized through the diversion of neural energy into the circular pathway of response. To assume that nervous energy is "discharged" through muscular reactions would seem to be erroneous, since in that case in-

[15] Blatz, W. E., and Millicamp, D. A., *The Development of Emotion in the Infant,* University of Toronto Press, 1935.
[16] "Fear," *Childhood Education,* pp. 142, 143.

appropriate or incorrect responses would be as effective in releasing nervous tension or dissipating the excitation as would appropriate reactions. Actually, our theory is somewhat different from a "discharge" hypothesis; it is one of concentration or conservation of nervous energy within limited neural circuits rather than in diffused ones.

Carney Landis's interpretation of emotions agrees very closely with our own:

> Interference with activity, especially activity motivated by the common urges or drives, is an essential criterion of the anger-producing situation. . . . The stimuli for fear may be regarded as arousing responses to certain changes in the total situation, changes requiring a sudden new adjustment which the individual is unprepared to make. . . . Fear arises when so much is known to the individual that he recognizes the potential danger of a situation without having a complete apprehension or control of that situation.[17]

The recognition in these terms of the characters of emotional behavior should certainly result in suggestions of clinical value as to its control. If fear is the result of having no adequate responses ready in relevant situations, then the individual can get rid of fear by better planning and foresight. The cataloguing of fundamental wishes such as is provided by Thomas [18] gives us the key to the main fears that beset mankind. We are afraid of personal and social insecurity, of loss of interest or boredom, of loss of affection, of loss of social status or position. In individual analyses we find some of these fears more pronounced than others. An important part

[17] Reprinted by permission from *Psychology, a Factual Textbook,* by Boring, Langfeld, and Weld, published by John Wiley & Sons, Inc.

[18] Thomas, W. I., and Znaniecki, F., *The Polish Peasant in Europe and America,* University of Chicago Press, 1918.

of clinical treatment is to help the individual to find more adequate solutions to these problems by more adaptive behavior. This adaptive behavior may in itself reduce the relevancy of the situation. For example, fear of poverty or loss of social recognition may be met not only by renewed effort or improved planning towards avoiding this loss, but also by diminishing the relevancy of the situation by a changed attitude. We may, figuratively speaking, tighten our belts and decide that much less than we now possess will still be enough. As for anger, that too may be avoided when we find out that obstructions in the way of adequate responses are often more fancied than real or that they can be avoided. As in the case of fear, we can diminish the relevancy of the situation.

Relevancy and Conditioning. In the light of the present discussion, the mechanism of conditioning should be clearer. The classical examples are, of course, Pavlov's famous experiments in inducing a salivary response at the ringing of a bell through the presentation of food at the same time as the stimulus which was to be conditioned. The relation of conditioning to our theories will be plain when it is pointed out that the unconditioned stimulus situation involved in these experiments is always extremely relevant. The presentation of food to a hungry animal, the flashing of a strong light on the eye, painful pricks, electric shocks, puffing air on the eyeball, drug injections, loud sounds, cold applied to the skin, and blows on the patellar tendon are some of the commonly chosen stimuli, and each is either harmful or of great potential relevancy to the animal. The stimuli to be conditioned are always of much less relevancy, and this fact illustrates the principle that such stimuli, hav-

ing their own circuits of response, may be drawn into or captured by systems of greater relevancy and become points from which the whole reaction can be initiated. The sound of the bell, for example, becomes the signal for salivation in the same way as a verbal representation may become an integral part of any circuit of response.

It would be interesting to see whether conditioning could take place between two stimuli of lesser relevancy. The normal response of a dog to pats on the head is wagging the tail, and experiments might be instituted to see whether this response could be induced to follow the ringing of a bell. Such a study would be valuable in proving whether conditioning is the basis of all learning or is dependent upon an established relationship of a situation of little relevancy with one of greater relevancy.

The question of what is or is not relevant to the situation is sometimes overlooked. Shaffer [19] says, "If performances of scratching at the door or sitting up to beg have been simultaneously performed with the organic state of hunger, these become accustomed responses to the condition and hence symbols of hunger." But hungry dogs do not sit up and beg from strangers or when running in the fields, nor do they scratch at doors indiscriminately. It requires the presence of the master to beg from, or the right door to scratch. In our terms, we would say that the presence of the master and the familiar door are essential stimuli in the circuit of response, and when these are absent the reaction does not take place. It would be just as correct to say that the master or the door had become a symbol for the satisfaction of hunger.

[19] Shaffer, L. F., *The Psychology of Adjustment,* Houghton Mifflin Company, Boston, 1936, p. 75.

References for Chapter III

Boring, E. G.; Langfeld, W. S.; and Weld, H. P., *Psychology, a Factual Textbook,* John Wiley & Sons, Inc., New York, 1935 (See especially Chapter II.)

Cannon, W. B., "Neural Organization for Emotional Expression," in *Feelings and Emotions: The Wittenberg Symposium* (edited by M. L. Reymert), Clark University Press, Worcester, Mass., 1928

Carmichael, Leonard, "Origin and Prenatal Growth of Behavior," Chapter II in *Handbook of Child Psychology,* 2d edition (edited by C. A. Murchison), Clark University Press, Worcester, Mass., 1933

Child, C. M., *Physiological Foundations of Behavior,* Henry Holt & Company, New York, 1924

Coghill, G. E., *Anatomy and the Problem of Behavior,* Cambridge University Press, London, 1929

Forbes, Alexander, "The Mechanism of Reaction," Chapter III in *Foundations of Experimental Psychology* (edited by C. A. Murchison), Clark University Press, Worcester, Mass., 1929

Herrick, C. J., *An Introduction to Neurology,* 5th edition, W. B. Saunders Company, Philadelphia, 1931

——, *Brains of Rats and Men,* University of Chicago Press, 1926

Jennings, H. S., *Behavior of the Lower Organisms,* Columbia University Press, New York, 1931

——, *The Biological Basis of Human Nature,* W. W. Norton & Company, Inc., New York, 1930

Jones, M. C., and Jones, H. E., "Genetic Studies of Emotion," *Psychological Bulletin,* Vol. 27, 1930

Jones, F. Wood, and Porteus, S. D., *The Matrix of the Mind,* Edward Arnold & Co., London, 1929

Kappers, C. V. A., "Further Contributions on Neurobiotaxis," *Journal of Comparative Neurology,* Vol. 24, 1917

Lashley, K. S., *Brain Mechanisms and Intelligence,* University of Chicago Press, 1929

Munn, Norman L., *Psychological Development,* Houghton Mifflin Company, Boston, 1938

Pavlov, I. P., *Conditioned Reflexes,* Oxford University Press, London, 1927

Sherrington, C. S., *The Integrative Action of the Nervous System,* Yale University Press, New Haven, 1906

Washburn, M. F., *The Animal Mind,* 3d edition, The Macmillan Company, New York, 1923

CHAPTER IV

The Nature of Intelligence

The chief justification for the inclusion of Chapter III lies in the fact that in his daily practice of describing the causal factors in human behavior and in making suggestions for treatment, the clinical psychologist cannot fail to talk of conditioning, substitutive reactions, emotional control, development of interests, instinctive activities, integrations, planning and anticipatory reactions, circular responses, drives, and so on. If psychology is to be more than phraseology, psychoclinicians must not indulge in vague terms or abstractions or make use of concepts that are not reasonably well-founded in biological science. Admittedly there have been few permanent bridges built between neurology and psychology, but at least the psychologist should have some working hypotheses that will span the gap for the present.

Another word that must be in every psychologist's vocabulary and which seems to be in need of better definition is *intelligence*. Whatever definition is advanced should accord with the broad biological view of man's neural development. Many psychologists feel extreme dissatisfaction with the suggestion that "intelligence is what the tests measure." The clinical psychologist is constantly faced with the necessity of social prediction, and the value of tests for this practical purpose would be stultified by the acceptance of such a definition. *Intelligence* is what the tests attempt to measure—but this is not a definition of the word.

Man's Repertoire of Relevant Stimuli. From the discussion in Chapter III it may be inferred that the process of enriching individual experience consists of adding to the number of relevant stimuli to which we can make appropriate responses. In terms of our neurological hypothesis, the mechanism is that of binding together into systems as many neural pathways as possible by conditioning, verbal rehearsals, and anticipatory reactions, thus widening the patterns of response. This is really what we mean when we speak of making stimuli more complex. "The flower in the crannied wall" may be to a child a very simple stimulus involving reactions to its color and possibly to its shape, but to the poet it may be a divine symbol, to the botanist it may be a marvelously intricate structure, and to the scientific philosopher it may be a guiding thread in the complicated pattern of life—a most complex stimulus. A brief recapitulation of the development of the ability to respond to increasingly complex stimuli may be useful.

The single-celled organism has, of course, very few and very simple stimuli to which it can make adequate responses. With the growing complexity of structure and differentiation of functions, and specifically through the development of sensory placodes that developed into distant sense receptors, the range of relevant stimuli increased. When vision and hearing became perfected, the repertoire of relevant stimuli and adequate responses was multiplied enormously. But until stereotyped responses could be inhibited or displaced by experiment and choice of reactions, no real progress was possible. Hence it was necessary to develop a neural mechanism by means of which delay and mental rehearsal of alternative solutions could be interpolated between stimulus and response.

This could only come about through a tremendous complication of connections leading to a great variety of motor responses. Speech, for example, with its vocabulary of near-synonyms involving all kinds of nuances of expression, must be represented in the cortex by an almost unimaginable complexity of pathways of response. Good diction means that we have at our command a multiplicity of circuits of response which have been built up by years of study of language and expression. Hence speech is the most complex of all stimuli with which we are equipped to deal.

Surveying the course of development, we may say that the higher the position in the evolutionary scale, the greater the range and complexity of relevant stimuli. The snail has a very limited repertoire of stimuli and responses, the ant has a more extensive range, the dog has a still more extensive list, while man is distinguished from all other animals, including his anthropoid cousins, by the number and complexity of situations to which he may more or less adequately respond. The qualification as to the degree of adequacy of response is necessary because man of all the animal creation has also the greatest opportunity and capacity to make mistakes.

Intelligence and Education. The child's range of relevant stimuli is considerably less than that of the adult, mainly because its ability to change and explore its physical and social environment is limited on account of immaturity of all-round development. The educated man's range, again, is greater than that of the fool. The untutored person, however, or the child may possess the same potential capacity for adding to his relevant-stimulus, adequate-response repertoire as does the educated man. The moron or the fool lacks this potentiality. There seems

to be no good reason why we should not make this ability to add to the significance of the environment the basis of a comprehensive definition of *intelligence,* a definition that will cover all the essential distinctions between the adaptive behavior of apes, morons, and men. Intelligent behavior, we would say, is the process of adding to the number and complexity of relevant stimuli to which the organism can respond.

But, it may be objected, does not this make progress in education and growth of intelligence equivalent, thus bringing *intelligence* back to its original meaning of "knowledge or understanding"? Provided that the range of intelligent behavior is made wide enough and the term *education* is properly interpreted, there seems to be no valid objection to this equivalence. Indeed, it would make possible a useful distinction between true and false education, the latter being the process of adding merely to the number of stimuli and not to the repertoire of *relevant* stimuli.

True education deals with the acquisition of facts or the attainment of skills that feed into or augment the main streams of activity, or, in other terms, further the life purposes of the individual, or advance the welfare of the group to which he belongs. But note again the fundamental urge, the primary instinct, described in Chapter III, and especially the fact that the organism's seeking or avoiding reactions are exercised according to "every means in its power." The process of true education broadens or increases these means, and thus it becomes the most important part of the design for fuller living. A relevant stimulus, then, is one to which it is biologically advantageous for the organism to respond, but this advantage is not related solely to mere survival.

Living, in its truest sense, implies the use of the organic equipment to the fullest extent consistent with the ultimate good of the organism. But the acquisition of unrelated facts, or the amassing of miscellaneous information, or the gaining of unusable skills is not true education. These activities have little relevancy, they do not form parts of circuits of response, they lack "belongingness," they add nothing to the pattern of life. False education is like giving a man an enormous quantity of gold beads without offering him any receptacle to put them in or anything to string them on, so that what he can take away with him will be limited to the number of beads he can hold in his bare hands.

Definitions of *Intelligence.* A number of definitions of *intelligence* have been proposed, all of which express more or less adequately some excellent idea without being quite so broad in their possible application to animal and human mental reactions as the one suggested. Some of these definitions are to be found in a symposium which appeared a number of years ago in the *Journal of Educational Psychology.*[1] For Terman, intelligence seemed best described as the ability to carry on abstract thinking, and this may be conceded to be one manifestation, and probably one of the highest, of intelligence. To make this ability the sole criterion would, however, be rather limiting. As Boynton [2] points out in an excellent discussion of some of the suggested definitions, ability for abstract thinking is not characteristic of animals nor of young children. Neither is it characteristic of primitive peoples, yet we should hesitate to call them unintelligent. To use ab-

[1] "Intelligence and Its Measurement: A Symposium," *Journal of Educational Psychology,* March, 1921.

[2] Boynton, Paul L., *Intelligence: Its Manifestations and Measurement,* pp. 9-21.

stract thinking as a scale to measure intelligence in general would be to limit the latter to one phase only of adaptive behavior.

Colvin suggested learning to adjust to environment as the criterion, but, as Boynton states, this would apply not only to animals but also to plant behavior, since these organisms are often extraordinarily well adapted to their environment. Nevertheless, Colvin's suggestion has decided merit. Another very frequently approved definition is that of Stern, who said, "Intelligence is the general capacity of an individual consciously to adjust his thinking to new requirements." Another form of this definition reads, "Intelligence is conscious adaptation to new problems and conditions of life." The inclusion of *conscious* limits the application to animal behavior. A criticism of this would be that the definition puts the chief emphasis on the newness of the problems rather than on the newness of the adaptations. Intelligence may be just as much concerned with working out new and improved responses to old and recurring problems, and this would be particularly true if we wish to speak of the intelligence of the race.

Keeping in view this newness of adaptation, the writer at one time suggested that *intelligence* be defined simply as "progressive adaptability." In similar fashion Munn has defined *intelligence* as "flexibility of adjustment," and the same underlying principle is stressed by Edwards, who proposed "capacity for variability or versatility of response." [3]

[3] See Porteus, S. D., and Babcock, Marjorie E., *Temperament and Race,* Richard G. Badger, Boston, 1926, p. 250; Munn, Norman L., *Psychological Development,* p. 103; and Edwards, A. S., President's Address, Southern Society for Philosophy and Psychology, 1927.

Criticism of Proposed Definitions. All of these definitions of *intelligence* are open to objection on the ground that they are not sufficiently specific. They put too much emphasis on the multiplicity or variety of responses, without due reference to the purposes served or the ends gained. Assiduous effort, extreme versatility, and a mind extremely fertile in expedients were at one time ascribed to the devil himself, but no one seemed to regard him as the apotheosis of intelligence. As Boynton points out, selectiveness of response should be either implied or stated in a satisfactory way. Adequacy of response to relevant stimuli suggests that both stimulus and response are selected. Munn's definition is excellent as far as it goes, but unfortunately it makes no reference to the kinds of situations to which the intelligent person exhibits a flexible adjustment. Skill in solving Chinese or jigsaw puzzles seems to demand reactive flexibility but is not usually considered an extremely intelligent exercise. Increasing the range and complexity of relevant stimuli to which we can satisfactorily respond includes not only the idea of progressive adaptability or flexibility of adjustment but also selection of stimuli in terms of their relevancy.

Mere survival in the struggle for existence is evidently not dependent upon intelligence, for there are many ancient forms of life in which the repertoire of adequate reactions is extremely limited. Until mobility of action and keenness of perception and judgment or choice of reactions have in some way reached a balance in development, a narrow range of response and stimulability may be positive advantages for survival. The blindworm, an English burrowing snake, for example, spends most of its time inactive, seemingly blind or deaf to all that goes on

around it, yet it never misses the sound of the raindrops pattering on the leaves, for this is the signal that the slugs on which it feeds will be abroad. Considering its sluggish motor reactions, we see that a more alert or adventurous spirit would probably mean the extinction of the blindworm species. It has so few things to attend to that it can attend to them well. Intelligence, as we have defined it, is not essential to mere living but merely to progress.

Increased mobility and intelligence must keep pace with each other, so that it is probable that man's improved methods of rapid locomotion may have far-reaching selective effects. For hundreds of years, by building bridges and cutting pathways and studying the stars in their courses and the direction of winds and so on, we have been endeavoring to develop protective devices, so that the risks men undergo in moving about the surface of the earth have been diminished decidedly. Now, with the invention of the automobile and the airplane, a new set of conditions is established. Obviously, we must learn to adjust ourselves to things in motion in an improved manner, and those of us who are inferior in this respect will be numbered among the "accident-prone." The absent-minded or the careless man has much greater chances of being eliminated than formerly. Moving objects have now become a more instant threat, so that those of us who do not match increased relevancy of situations by improved attention are in greater danger.

Chief Classes of Relevant Stimuli. It is evident, then, that human progress and particularly that hugely complicated burden of social inheritance that we call civilization has multiplied enormously the number of stimuli that are relevant. Thorndike, in his contribution to the

symposium already referred to, has clarified matters by noting three generalized situations in which men are required to make responses, thus defining for us the field of human intelligence and at the same time illustrating the limitations of our most successful efforts to measure that intelligence.

Speaking of a boy's responses on a composite test that included the Stanford-Binet and the National and the Haggerty, Thorndike says:

> If the boy has had ordinary American opportunities, this score will prophesy rather accurately how well he will respond to intellectual demands in the case of "book-learning" at the time and for some years after, and very possibly how he will respond in thinking about a machine that he tends, crops that he grows, merchandise that he buys and sells, and other concrete realities that he encounters in the laboratory, field, shop, and office. It may prophesy less accurately how well he will succeed in thinking about people and their passions and in responding to these.[4]

It is evident from this statement that Thorndike is describing what have been sometimes called three kinds or aspects of intelligence—literary or abstract, mechanical, and social intelligence. Perhaps it would be better to say that there are three chief classes of stimuli to which it is biologically advantageous for men to attend—the world of ideas as expressed in written or spoken speech, the world of things or machines, and the world of men or social relations. We are not required to make equally adequate responses to each of these three classes of relevant stimuli, but under modern conditions of living our reactions must at least be fairly adequate in these

[4] "Intelligence and Its Measurement: A Symposium," *Journal of Educational Psychology,* March, 1921, p. 126.

directions. A person is seriously handicapped if he is inadequate in any of these aspects; if, for example, he cannot use ordinary abstract symbols of thought to the extent of obtaining a usable education; if he is so deficient in mechanical ability that he cannot learn to manipulate the ordinary tools and gadgets that human ingenuity has provided for our convenience; if he is afflicted with social myopia so that he cannot interpret or anticipate the effects of his actions on other people, and so is a misfit, unable to enlist co-operation in his own designs or give intelligent aid to the purposes of others.

It should be remembered that what we designate as practical ability, especially of the tool-inventing and tool-using type, was, in the history of the race, of prior importance to the ability to deal with abstract symbols of thought. Human inventiveness has been concerned with concrete realities for a long time, yet the machine age is probably just beginning. But perhaps the very oldest skill that man developed was social intelligence.

It is difficult to see how this kind of ability can be overestimated. Phylogenetically and ontogenetically other people represent our first and most important stimuli. The capacity for adjustment in social relations is indeed so important that Boynton would make it the central point of his definition of intelligent behavior. He says:

> In the last analysis, what else other than the consistency of one's response to the needs of his group, of which, to be sure, he himself is one factor, can be made the standard by which to judge his intelligence? We live in a social order, in fact are dependent upon it for our very existence, and are regularly and justly judged by our fellows on the basis of the consistency of our social behavior.[5]

[5] Boynton, Paul L., *Intelligence: Its Manifestations and Measurement*, D. Appleton-Century Company, Inc., New York, 1933, p. 13 ff.

Boynton defines intelligent behavior as an "inherited capacity of the individual which is manifested through his ability to adapt to and reconstruct the factors of his environment in accordance with the most fundamental needs of himself and his group." The criterion here suggested does not differ materially from the definition of intelligence as capacity to enlarge the significance of the environment by extending the range and complexity of relevant stimuli. Boynton rightly gives the definition a social reference by including the needs of the group.

Are There Different Kinds of Intelligence? Some psychologists, such as Franz and Gordon, have criticized this division of intelligence into its abstract, mechanical, and social aspects. In their discussion they say that "both the terms *social intelligence* and *mechanical intelligence* are somewhat vague, having perhaps almost as many shades of meaning as there are individuals using them. It is likely that if these so-called intelligences were sufficiently analyzed we would find present both G, or general ability, and S, or special ability. In some phases of mechanical intelligence, S would decidedly predominate, while in others there would be a great deal of G." [6]

The implication here seems to be that if *g* and *s* are present in mechanical and social intelligence, the division of general intelligence into three kinds is unnecessary; but the argument is by no means clear. If Spearman's two-factor theory of intelligence [7] is accepted, it would seem inevitable that *g* and *s* will be found in varying amounts in every response involving mental ad-

[6] Franz, S. I., and Gordon, Kate, *Psychology,* McGraw-Hill Book Company, Inc., New York, 1933, p. 63 *et seq.*

[7] See Spearman, Charles, *The Abilities of Man.*

justment of any kind. This is no reason, however, why intelligence should not be divided according to the class of material or situation to which the adjustment must be made. People differ so markedly in their ability to deal with words and abstract ideas, or with machines and concrete realities, or with other people, that the threefold differentiation of intelligence seems useful. There seems to be no more vagueness in the use of the terms *social intelligence* and *mechanical intelligence* than there is in the way in which it is usual to speak of intelligence in general.

What Franz and Gordon probably mean to convey is that mechanical aptitude, in the sense of a rather simple manipulative ability, enters but slightly into the building, let us say, of a bridge and that therefore bridge building is more a problem in general intelligence than in mechanical intelligence. This would be true if *manipulative ability* and *mechanical intelligence* were synonymous, which is far from being the case. Confusion undoubtedly will occur if the distinction is made between *general intelligence* on the one hand and *social and mechanical intelligence* on the other hand, but the division is into *abstract, mechanical,* and *social.* Bearing this in mind, we agree with Franz and Gordon [8] when they say that the phrase *social and mechanical intelligence* refers to two kinds of capacity and that each kind includes both general and special ability. In the ability to think clearly and correctly about people and to respond adequately, individuals differ just as much as they do in other capacities. It is much more than the ability to get along with people, although that is important. Without social insight, it is difficult to see how social co-opera-

[8] Franz, S. I., and Gordon, Kate, *loc. cit.,* p. 64.

tion could be brought about, and without that co-operation any distinctively human development would have been impossible. A little consideration of the conditions out of which human life has emerged should prove this fact.

The Importance of Social Intelligence. When our protohuman ancestors gave up arboreal life and became ground-ranging animals, they were exceedingly poorly equipped for either attack or defense; yet the relinquishing of the purely defensive tree-climbing and tree-clinging habit was essential to progress. The setting free of the hand for use as an exploratory and food-holding organ and the consequent shortening of the snout and the development of binocular vision could hardly have taken place while the forelimb was needed as a prehensile instrument. But in giving up the arboreal habit, man had either to specialize in developing immense weight and strength at the cost of mobility, like the gorilla, or to rely on other protective devices. Of all defensive mechanisms, the most valuable was the social tool of speech, since through its use man brought about a high degree of social cohesion. Once speech was developed, what was merely gregariousness and weight of numbers became co-operation. Weak and helpless as human individuals undoubtedly were, joining together to carry out a planned and directed purpose made man the most formidable of animals. Speech made co-operation both in attack and defense possible under varying conditions. Leadership and acting in concert thus became important aspects of human behavior and, later on, of the working out beforehand of plans and stratagems. With this high degree of social co-operation, not only human survival but human progress became assured. It is small wonder, considering

our biological history, that social capacity is a most important individual attribute.

This social capacity has both its subjective and objective aspects. It is a two-way affair, consisting not only in reading correctly the signs that indicate the other person's attitudes, beliefs, emotions, prejudices, suggestibility, and so forth, but also in displaying to his view just those indications of interest, concern, sympathy, and sincerity that will impress him most and win his approval and support. A moment's reflection will show how essential to human functioning social intelligence must be. The politician in seeking votes, the lawyer in addressing a jury, the advertiser or salesman in selling his wares, the officer or teacher in maintaining easy discipline, the doctor in winning the confidence of his patient, the social worker or clinical psychologist in interviewing a case—all of these must have social capacity. That they need the same kind of ability as is required in working with mathematical formulas or writing a book of poetry would seem rather unlikely.

The relevancy of social stimuli is proved, if by nothing else, by the vast number of words we use to describe all the nuances of social behavior. Notwithstanding this tremendous elaboration of language to fill the needs of social description, the list still grows. The use of these descriptive terms implies judgment of conduct or appearance and close attention to the data of social comprehension.

So important to us are people as relevant stimuli that what is called applied psychology is, to the common view, in large part a matter of social intelligence. Success in business, salesmanship, improvement in social status, winning friends, and avoidance of criticism are significantly

dependent on reading other people's motivation and seeing ourselves as others see us. We are constantly safeguarding ourselves from social criticism, hurrying to be on time, showing modesty in speech or dress, obeying the hundred and one rules of social usage. When popular lecturers on psychology talk about personality, what they mean mainly is social intelligence.

Imaginative or Artistic Intelligence. One of the chief difficulties experienced in analyzing social data lies in the fact that we ourselves are social beings and therefore cannot take up that completely detached attitude which is so important to scientific procedure. Adequate responses to people's passions and prejudices usually consist of keeping one's own emotions under control. To the three chief classes of relevant stimuli—abstract, concrete, and social—perhaps we should add a fourth, the imaginative or artistic. A question exists as to whether or not this capacity should be included under concrete intelligence. It involves not only a high degree of manipulative skill, such as is required in drawing or painting or in playing a musical instrument, but also interpretative ability of a very high order. It includes, in addition, the ability to acquire technical knowledge in respect to the media through which the artistic ability expresses itself. Ever since the men of the Stone Age began representing the objects of the chase on the walls of their caves or discovered the impelling emotional power of music and song, artistic ability has grown to great social significance and its products have become of special relevancy.

Who Is Intelligent? It would be far too much to expect all-round proficiency or ability in each of these different fields of human endeavor. To be considered

highly intelligent, a person should possess a considerable degree of capacity to deal with one class of relevant stimuli and at least a reasonable competency in one or more of the other classes. Our scale of social values is such, however, that if an individual is highly gifted in a single field, his deficiencies in other directions are likely to be considered of little importance. But if he has no outstanding ability, he must possess ordinary competency to deal with more than one class of stimuli in order to be considered a useful member of society. It is essential, as Freeman [9] has indicated, for the intelligent individual to gain "a balanced and sane reaction to the entire world of things, ideas, and persons."

The material with which intelligence deals—or, in other terms, the stimuli to which it is biologically advantageous for us to attend—is so varied in nature that it is extremely difficult for us to think of one central factor in intelligent action, such as *g* and a number of special abilities designated as *s,* unless we assume that those special abilities together are of at least as much importance as *g*. There is, of course, a great deal of overlapping between the different capacities, but that overlapping is by no means so complete as to make the unitary nature of general intelligence probable. For example, the ability to use with facility the abstract symbols of mathematics does not seem to be closely related to the control and direction of emotional reactions, which, as we have seen, are important factors in social intelligence. Yet who is to say which ability is of greater biological advantage? If flexibility of adjustment is to be considered basic to intelligence, then surely it is just as important to adjust

[9] Freeman, F. N., "Intelligence and Its Measurement: A Symposium," *Journal of Educational Psychology,* March, 1921, p. 134.

in one direction as in the other. Quite apart from statistical analysis, and relying merely on psychological observation, it would seem that there is little abstract ability that can be used in emotional situations. If "a balanced and sane reaction to the entire world of things, ideas, and persons" is the goal of individual development, then the person who has attained that goal is well educated; and he is also highly intelligent, for he has a sufficient range and complexity of relevant stimuli to which he can respond.

Growth of Behavior Patterns. Linking this discussion with what has already been said of systems of circular response and how the enlargement of experience is dependent upon the interrelations of those systems or patterns of neural activity, it is seen that this viewpoint agrees very closely with that of Thorndike in his discussion of the nature of intelligence. His statement reads:

> In their deeper nature, the higher forms of intellectual operation are identical with mere association or connection-forming, depending upon the same sort of physiological connections, but requiring many more of them. . . . The gist of our doctrine is that, by original nature, the intellect capable of the highest reasoning and adaptability differs from the intellect of an imbecile only in the capacity for having more of the connections of the sort described.[10]

Except that it emphasizes connections rather than circular systems, the statement above does not seem to differ in any essential degree from the preceding description of the building up of neurological pathways of response and the correlation of these, through conditioning or otherwise, with other established circuits. Pintner,

[10] Thorndike, E. L., *The Measurement of Intelligence.*

also, has expressed the basic ideas of our definition of intelligence without, however, formulating it exactly in these terms. He says:

> The intelligent organism has a multiplicity of *responses;* the unintelligent, few. The intelligent organism responds to a greater number of *situations.* Intelligent behavior leads from one thing to another in ever-widening circles; unintelligent behavior is narrow and restricted and leads to repetition and cessation.[11]

Transferring Pintner's remark regarding "ever-widening circles" to a neurological reference gives an exact analogy with the picture in this text of the ground plan of the neuropsychological mechanism.

Spearman's Theory of Intelligence. It is a rather interesting fact that though we as yet have no clear ideas as to the nature of intelligence, this has not prevented psychologists from proceeding with manifold efforts to describe the way in which intelligence functions and to measure the efficiency of that functioning. But though attempts to measure intelligence have run considerably ahead of investigations of its nature, there are several promising developments which may result at least in a descriptive classification of the mental abilities that together make up intelligence.

Spearman's two-factor theory has already been mentioned. (See page 97.) According to this hypothesis, there is a general factor *g* which varies freely from individual to individual and is present in different degrees in various mental tasks, but which at the same time remains the same with respect to all other correlated abilities. In

[11] Pintner, R., *Intelligence Testing: Methods and Results,* Henry Holt and Company, Inc., New York, 1931, p. 48.

Spearman's view this factor is identified—though tentatively—with a fund of central nervous energy, a stimulation contributed by the whole cortex to any focus of local activity in the brain, "some force capable of being transferred from one mental operation to another different one," much as the whole weight and co-ordinated strength of the body may be used to reinforce the action of a single set of muscles. A simple analogy is to represent as *g* the chief wealth of an individual in gold which has purchasing power under any and all conditions. On the other hand, *s* stands for the specific capacity for a particular kind of performance, such as playing a musical instrument or solving mathematical problems, into which *g* also enters; *s* therefore corresponds in our analogy with the individual's paper money or baser coinage which is usable only in the countries where it is current. Obviously, in calculating the total resources of an individual, both general and specific abilities must be taken into account. Where specific factors overlap, as when elements present in one ability are also present in others, these constitute group factors. It would do no violence to our analogy to say that these group factors are like the silver currency of two neighboring countries, which are interchangeable for buying purposes provided they are tendered close to the border. For the determination of the presence of *g* and *s* in various tests, as also for the evaluation of group factors, Spearman [12] has used the tetrad equation technique. Specific factors isolated by this method include verbal ability, motor capacity, number response, general mobility, constancy of energy, and self-control. Additional general factors also have been proposed, represented by their initial letters: *p* (persevera-

[12] Spearman, C. E., *The Abilities of Man.*

tion), *o* (oscillation), and *w* (will). Among the group factors recognized are verbal and practical abilities, each of which is broader than specific factors but not so general as *g*. As an outcome of his studies, Spearman suggests that only tests highly saturated with *g* should be used as intelligence measures. It would be difficult, however, to persuade clinical psychologists to give up their present method of testing a wide range of mental capacities which seem to be of distinct value in everyday adjustments.

Factor Analysis of Tested Intelligence. Another development which seems to promise an even more direct bearing on clinical psychology and its methods is that of the component-factor analysis devised by Thurstone,[13] who regards the tetrad difference method as "a special case of the present multiple factor theorem." By means of this technique the independent common factors that enter into a group of tests or a series of social judgments can be described. The theory emphasizes the operation of multiple factors rather than a general factor. Some of these primary traits that have been isolated and validated are, according to Garrett,[14] verbal ability, numerical ability, mental speed, and memory. Thurstone [15] lists, among differentiable abilities, spatial or visual judgment, numerical ability, perception of visual detail, verbal factors (two), memory, and induction.

The importance of these findings for clinical psychology is obvious, for if we are to appraise the abilities of an individual justly, we must choose our tests so that

[13] Thurstone, L. L., "The Vectors of Mind," *Psychological Review*, Vol. 41, January, 1934.

[14] Garrett, H. E., "Differentiable Mental Traits," *Psychological Review*, Vol. 2, 1938.

[15] Thurstone, L. L., *Primary Mental Abilities*, Psychometric Monographs, No. 1, University of Chicago Press, 1938.

these primary traits are examined. However, the traits already differentiated do not necessarily represent the complete list.

One of the chief difficulties in the way of the interpretation of these results seems to be, as Thomson [16] points out, that the nature of the correlations which are used in factor analysis varies with the sample of persons to whom the tests are administered. Consequently, the factor loadings will differ according to the population examined. If this criticism is justified, then a great number of studies involving many samples of cases will be required before conclusions are valid. Ultimately it may be possible to say that for a given population, say delinquent Negresses aged 12 to 16 years, a certain group of tests examines certain abilities and that the factor loadings are thus and so.

The Value of Factorial Analysis. Among uses of the method as described by Thurstone in one of the first formulations of the theory is the analysis of terms descriptive of personality, such as *impetuous, domineering, submissive, conscientious,* and the like. Applying the technique, five factors were found to account for no less than sixty such terms of social characterization. On the basis of these results Thurstone makes the suggestion that "the scientific description of personality may not be quite as hopelessly complex as it is sometimes thought to be." Of interest also to clinicians is the fact that the largest trait clusters included derogatory terms, indicating that social condemnation is commonly expressed in many related terms and that when we apply one term to

[16] Thomson, G. W., "The Influence of Univariate Selection on the Factorial Analysis of Ability," *British Journal of Psychology,* Vol. 28, 1938.

a person we dislike we are inclined to rate him unfavorably in many respects. This is what might be called an adverse halo effect.

A study of the factors present in a group of nine tests illustrates the difficulty of naming the abilities when found. Four performance tests—the Pintner-Paterson scale, the Healy Picture Completion Test, the Porteus Maze, and the Alexander Performance Test—were found to cling together in a cluster, the common element being, according to Thurstone, "manipulatory ability." This common ability seems to be inadequately named, indicating that there is still room for psychological insight in the analysis of tests. The term *manipulatory ability* is so vague and generalized that it might easily mean no more than "the ability to do performance tests."

However, all the implications of the new methods are not yet fully apparent, and it may well be that factorial analysis will help materially "in meeting the practical demands of educational and psychological guidance."

Limitations of the Statistical Approach. But in this connection a word of warning is necessary. The value of these newer methods of analyzing test results would be assured if we could accept the view that *g is* intelligence or, as it has been put, that intelligence is what the tests measure. But to clinical psychologists who are actively engaged in classifying people for practical purposes, this statement has no real significance; it is as bald as it is bold. According to Spearman's technique, tests of verbal analogies are most saturated with *g,* but no one with any clinical experience would think of relying on these tests for mental or social diagnosis. They are also saturated with verbalistic facility—a trait which is not essential to effective social functioning. To discard all other

tests in favor of one of verbal analogies would be not only to throw away the baby with the bath water but to retain an academic afterbirth in its stead.

It must be remembered that though factor analysis and other mathematical refinements are most useful in showing what the tests actually do measure, they analyze test methods but not intelligence. They may list mental abilities, but they cannot tell the psychological value or weight of those abilities. The question is not how many abilities man possesses but how and when he uses them. Some degree of ability to climb trees is an almost universal attribute, as was evidenced by the surprising performance of a portly gentleman—who had not practiced the ability for fifty years—when charged by an African buffalo. But the question remains, What, under ordinary conditions, is the ability worth? This the mathematician cannot tell us. We must return to the definition of intelligence set forth in the earlier pages of this chapter and ask ourselves to what degree the ability in question increases the range or complexity of our relevant stimuli. No matter what it once meant, tree climbing is no longer a valuable human accomplishment, even though it is as universal as *g*. The ladder, the stairway, and the elevator have superseded all that. Though psychologists realize their theoretical nakedness, they would like to clothe themselves in something more adequate than a statistical *g*-string.

References for Chapter IV

Ballard, P. B., *Mental Tests,* Hodder & Stoughton, London, 1925

Binet, A., and Simon, T., *The Development of Intelligence in Children,* Training School, Vineland, N. J., 1916

Boynton, Paul L., *Intelligence: Its Manifestations and Measurement,* D. Appleton-Century Company, Inc., New York, 1933 (See Chapter I.)

Brooks, Fowler D., and Shaffer, L. F., *Child Psychology,* Houghton Mifflin Company, Boston, 1937

Freeman, F. N., *Mental Tests,* Houghton Mifflin Company, Boston, 1926 (See Chapter XVIII.)

Garrett, H. E., *Great Experiments in Psychology,* D. Appleton-Century Company, Inc., New York, 1930 (See Chapter XIV.)

Jones, F. Wood, and Porteus, S. D., *The Matrix of the Mind,* Edward Arnold & Co., London, 1929 (See especially chapters VIII and XLIV.)

Kelley, T. L., *The Influence of Nurture upon Native Differences,* The Macmillan Company, New York, 1926

Munn, Norman L., *Psychological Development,* Houghton Mifflin Company, Boston, 1938 (See Chapter IV.)

Pintner, R., *Intelligence Testing: Methods and Results,* new edition, Henry Holt and Company, Inc., New York, 1931 (See Chapter IV.)

Porteus, S. D., *The Maze Test and Mental Differences,* Smith Printing and Publishing House, Vineland, N. J., 1933 (See chapters I and II.)

Spearman, C. E., *The Nature of Intelligence and the Principles of Cognition,* The Macmillan Company, New York, 1927

——, *The Abilities of Man,* The Macmillan Company, New York, 1927

Thorndike, E. L., *The Measurement of Intelligence,* Teachers College, Columbia University, New York, 1927

Woodworth, R. S., *Psychology,* revised edition, Henry Holt and Company, Inc., New York, 1929

CHAPTER V

The Binet Scale: Old and New

The Value and Limitations of the Scale. The history of the Binet scale in America is referred to in Chapter VII, which deals with its use as a diagnostic aid in the determination of feeble-mindedness. It is sufficient here to say that it has run through all the stages of skepticism, doubtful acceptance, whole-souled enthusiasm, and uncritical confidence in its results, and, finally, of more sober appraisal. It is only now reaching the stage of just evaluation as a useful but by no means infallible instrument of mental measurement. No matter what improvements are made in the Binet scale, its nature is such that its interpretation for diagnostic purposes will always be, in many cases, uncertain. It is altogether unlikely that any verbal scale or, in the main, any verbally administered scale will ever be an adequate measure of mentality.

It is noteworthy that Terman and Merrill,[1] in their description of the new scale, refer to a Binet I.Q. as exactly what it is—an index of brightness. Possibly in order to forestall criticism, they point out that some workers will overenthusiastically rely on it to the exclusion of other lines of diagnostic significance; others will be hypercritical and object to the I.Q. as being often misused, or because it is influenced by environment, or "because it does not measure social adaptability; because

[1] Terman, Lewis M., and Merrill, Maud A., *Measuring Intelligence.*

it does not always predict accurately success in school, or success in life, and so on."

The clinical psychologist of experience, however, will not object to the Binet on these terms but rather because it *is* being used and will doubtless continue for some time to be used as "a measure of social adaptability." Some of Terman's own statements in the past have led to unjustified interpretation of the I.Q. for social diagnosis; but it is encouraging to note that Terman, at least by implication, admits the diagnostic limitations of the scale. It is agreed that a Binet I.Q. is without doubt a most useful index of brightness, and possibly the most relevant fact that can be established with regard to an individual. Nevertheless, it has decided diagnostic limitations.

Notwithstanding the many criticisms to which the Binet scale has been subjected—criticisms that in the main are directed against its abuse rather than its legitimate value —we can further agree that it constitutes the most generally useful instrument yet devised in the field of mental measurement. Moreover, there is no doubt that many of the other tests and scales that the clinical psychologist uses, either to supplement or to correct Binet results, were developed by following the basic Binet method.[2] None of these other tests is as wide in scope or as well standardized, nor does it have the predictive value of the Binet scale. In the hands of the experienced psychologist, the Binet scale is an excellent tool. Used by the psychometrist with little knowledge of its faults and possible limits of interpretation, it may become a most dangerous

[2] It is an open question, which time alone can settle, whether Binet or Freud has made the greatest contribution to psychology. Psychiatrists and psychologists would probably disagree on this point, mainly because of the special use which each profession has made of their work.

implement. This chapter discusses its value and limitations. Whatever may be said in criticism of it does not, of course, diminish the claims that may legitimately be made on its behalf.

The credit for the introduction of the Binet scale to America and for its early establishment in scientific esteem belongs to Dr. H. H. Goddard. The publication of his revision and its subsequent great popularity may be now an old story, but the extent and value of Goddard's pioneer work should not be overlooked or forgotten. It was as a sort of backwash from the wave of interest and criticism created in America by the Goddard revision that further experimentation on the application of the tests was carried on in Europe.

The improvements which Professor Terman made in the Stanford revision of the scale were mainly in the direction of extending the scale in the upper levels by the addition of several tests, the most significant of which were the vocabulary tests, and the better standardization of the scale as a whole. Nevertheless, the tests were still too difficult in the upper years, the cases on which they had been standardized being decidedly above the average of the groups to whom the scale was to be commonly applied.

Analysis of the Stanford-Binet Scale. There is no need at present to dwell any further on the imperfections of the Binet scale as a sole diagnostic instrument. It might, however, be helpful to our understanding of the clinical approach to uncover the reasons for its inadequacy. This can be done in part by subjecting the individual tests of the scale to psychological analysis and classification. This classification of the tests of the Stanford revision is by no means exact, but in general the

tests fall more or less definitely into the following five chief categories:

(1) *Memory tests.* These include memory span for digits forwards and backwards, sentences, commissions, and ability to report items from a reading selection and to produce designs—in all, $20\frac{1}{2}$ tests.[3]

(2) *School proficiency.* Six problems in number work, a test of reading, and a test of writing from dictation are found in the scale—$7\frac{1}{2}$ all together.

(3) *Verbal ability.* Tests of verbal comprehension and reasoning, vocabulary, definitions, descriptions, sentence building, rhymes, and detection of verbal absurdities are included, to the number of 22.

(4) *Common knowledge.* The subject is required to name parts of the body, days of the week, months of the year, and right and left, and to state similarities in common things—26 tests.

(5) *Practical judgment and ability.* This is examined by problems in comparison of weights, drawing skill, tying a knot, fitting rectangles, ingenuity, and other practical tests, to the total number of 14.

Admittedly, some of the tests are difficult to classify. For example, a test for the interpretation of pictures includes not only correct appreciation of a social situation but also the ability to express it verbally. At the lower level at which the test is placed, where description in the simplest terms is acceptable, it may be considered as a test of common knowledge. On the other hand, the interpretation of a fable read to a child would seem to depend more directly on verbal comprehension and expres-

[3] "Reading and Report" (X-4 in Stanford. and X-3, Form L, of Terman-Merrill) tests memory and reading ability, so counts a half in each of the first two categories of this analysis.

sion, and this places it among the language tests. Some of the tests of judgment at a low level, such as the choosing of the longer of two lines or the prettier of two faces, depend on the child's understanding of the terms used, but they may be considered primarily as tests of practical judgment.

Classification of Tests in the Stanford Revision. If we group together the first three classes—memory, school attainments, and verbal ability—and call them tests of abstract ability, we find that they number 50 out of a total of 90 tests (including alternative tests), the percentage being about 56. The remaining 40, or about 44 per cent, can be classified as tests of practical intelligence, although many of them also involve verbal comprehension and language facility. These relative proportions would not be so important if it were not for an unfortunate grouping of the tests. The critical ages in mental diagnosis are from eight to twelve years, and at these levels, out of a total of 33 tests, we find the following to be tests of practical intelligence as apart from abstract ability and language comprehension or usage: the Ball and Field tests (VIII-1 and XII-3); arranging weights (IX-2); Healy-Fernald form board (X-Alt. 3). Six other tests are of common knowledge or comprehension of practical situations. All the others involve either school attainments, memory, or language comprehension and facility. To have as many as 70 per cent of the total tests from the eight-to-twelve-year level classifiable as tests of abstract ability is obviously unfair to a great many individuals whose mechanical or social ability is not at all defective, even though their ability to deal with abstract symbols may be inferior. It is small wonder that the laborer, the rural worker, and the semiskilled, who

usually have limited schooling, restricted vocabulary, and poor rote memories, make a very poor average showing in the tests. In this connection, it should be remembered that the diagnosis of social sufficiency of adults in the eight-to-twelve-year mental-age groups will not be dependent on their ability to carry on abstract thinking.

Another defect of this grouping of the tests is that, due to their position in the upper levels of the scale, where higher credits for success are allotted, the tests of vocabulary, defining abstract words, interpretations of fables, and abstract reasoning are heavily weighted. The six tests of practical performance above the 9-year level earn only 2 years 2 months in mental-age score, while those of verbal reasoning and comprehension earn 5 years 5 months. This arrangement, of course, is quite consistent with Terman's definition of intelligence as ability for abstract thinking, but it confers an undue advantage on individuals who may have good verbal abilities but very poor practical judgment.

The Army Test results give a clear demonstration of the unsuitability of the scales of the Binet type for the measurement of intelligence of relatively untutored adults. The mean mental age for Negroes in the draft was only 10.4 years, and over 50 per cent had intelligence quotients below 70. It may be interesting to note what kind of picture the application of a modified Binet scale presents of a school population where the children are handicapped by hearing a foreign language spoken at home, even though they themselves are English-speaking, with a very restricted vocabulary and range of expression.

Language Disabilities and Performance. The records of 3619 children between six and fourteen years of age (inclusive) who were examined at the Psychological

Clinic of the University of Hawaii have been analyzed. These subjects were mainly Orientals and various part-Hawaiian mixtures, and they were referred because of delinquency, school retardation, and various other reasons. The sample cannot differ markedly from what may be found in certain areas of the United States where recent immigrants, such as Poles, Italians, or Portuguese, have settled or where Mexicans, Indians, or Negroes are found in large numbers. Table II gives by racial groups the numbers and percentages of those whose I.Q.'s by a modified Binet scale were below 70 (the percentage for all cases being 21.9). It should be explained that the modification of the scale was especially in the direction of eliminating the vocabulary and other tests directly dependent upon English usage. Had the ordinary Stanford-Binet tests been used, a much larger percentage would have been below 70 I.Q.

TABLE II

PERCENTAGES OF CLINIC CASES BELOW 70 I.Q.

Total Cases	*Racial Groups*	*Number Below 70 I.Q.*	*Percentage Below 70 I.Q.*
133	Puerto Ricans	57	42.8
460	Portuguese	139	30
946	Miscellaneous Hawaiian mixtures	264	27.9
175	Filipinos	46	26.3
304	Chinese Hawaiians	66	21.7
805	Japanese	128	15.9
267	White Hawaiians	37	14
407	Chinese	45	11
122	Koreans	11	9
3619	All cases	793	21.9

By a more careful diagnostic examination, involving performance as well as verbal tests, it was found that not more than 10 per cent of these cases were really feeble-minded. Hence application of a diagnostic standard (below 70 I.Q.) commonly accepted at one time in the United States would result in exaggerating the incidence of mental defect in Hawaii two and a half times.

The fact that the racial samples of Table II differ so markedly in their proportions of individuals below 70 I.Q. indicates that failure is not entirely due to language handicaps. The Portuguese, for example, suffer no greater disability in this regard than the Japanese, yet their percentage below 70 I.Q. is almost twice as great.[4] Evidently tests of the general nature of the Binet are not suitable for diagnostic application to the children of Hawaii. Quite apart from language disabilities, however, performance tests seem to provide better measures of social and mechanical intelligence and are therefore fairer in their application. Nevertheless, there is a wide spread in average performance test scores, indicating actual racial group differences in mentality.

New and Old Scales Compared. The new Terman-Merrill revision is intended to correct some of the shortcomings of the former scale. These deficiencies are set forth in the authors' comparison of the new scales with the old: "They cover a far wider range, they are more accurately standardized throughout, the tests provide a richer sampling of abilities, and the procedures have been more rigidly defined. On the whole, they are somewhat less verbal than the old scale, especially in the lower

[4] The social and industrial position of the Portuguese is much better than their performance as a group in mental tests suggests. This fact alone indicates that tests do not tell the whole story.

years." In another place the authors speak of their attempt "to correct such inadequacies of the old scale, as its too verbal character at the lower levels and its too great dependence upon rote memory at the upper." [5] It is rather unfortunate that it is not so much at the lower levels of the scale but more particularly in its middle ranges that the too verbal character of the test still needs correction.

Analysis of Form L: Terman-Merrill Binet. An analysis of the new scale will reveal this fact. Taking Form L between the ages of three years and average adult so as to make as fair a comparison as possible with the Stanford revision, we find 17 tests which are practically independent of language as regards either the response of the subject or his comprehension of the instructions for the test itself, and which at the same time are not tests of memory or abstract ability. These 17 performance tests make up about $17\frac{1}{2}$ per cent of the total 97 tests between the designated levels.[6] In the old Stanford-Binet scale only 13 tests, or about $14\frac{1}{2}$ per cent of the total, could be similarly described. From this analysis it is evident that, as Terman and Merrill state, the proportion of nonverbal tests has been slightly increased. But in the new scale only 4 of these performance tests are between the mental levels of eight and fourteen years. These tests are paper cutting (IX-1 and XIII-3), the ball and field (XIII-1), and the paper-folding test (XIV-2). It is obvious that at these critical levels, where

[5] Terman, L. M., and Merrill, Maud A., *Measuring Intelligence,* Houghton Mifflin Company, Boston, 1937, pp. 3 and 4.

[6] Three of these tests are alternatives in the new scale, but only one is an alternative in the Stanford revision. Tests which require the subject to do something, rather than say something, number 31 in the new scale, but 74% of them are in years below VII. In the Stanford there were 18 tests of this nature, but only 50% were below year VII.

the tests are expected to contribute most to the diagnosis of mental defect in adolescent and adult cases, the new scale is much overweighted in the direction of the testing of abstract and verbal ability. It should be noted that Terman and Merrill themselves point out this characteristic of the new scale. They say:

> Our efforts to increase the number of nonverbal tests were successful chiefly at the lower levels. Like other investigators, we have found that it is extremely difficult to devise nonverbal tests for the upper levels which satisfy the requirements of validity, reliability, and time economy.[7]

Classification of Tests in the New Scale. If we classify the individual tests of the new Terman-Merrill scale, using the same categories as before, we get the following approximate distribution:

(1) *Memory.* These include memory span for digits, sentences, commissions, items read in a story or news paragraph, pictures, and designs—21½ tests.

(2) *School attainments.* There are 4½ tests involving school attainments—4 of arithmetic and the "Reading and Report" test.

(3) *Verbal ability.* These are tests of vocabulary, verbal comprehension and expression, description, definitions, verbal reasoning, rhymes, word associations, and verbal classification—32 tests.

(4) *Common knowledge and comprehension of practical situations.* These include similarities, picture interpretation, picture absurdities, problems of fact, and aesthetic comparison—19 tests.

[7] Terman, L. M., and Merrill, Maud A., *Measuring Intelligence,* Houghton Mifflin Company, Boston, 1937.

(5) *Practical judgment and abilities.* These are tests of manipulative skill, drawing, form board, planning, induction, and ingenuity—20 tests.

For purposes of comparison, the distribution of tests in the two scales are shown side by side in Table III.

TABLE III

CLASSIFICATION OF TESTS IN THE NEW SCALE (FORM L) AND THE OLD BINET SCALE

(Years 3 to Average Adult)

Category	*Number in New Scale*	*Number in Old Scale*
1. Memory	21½	20½
2. School Attainments	4½	7½
3. Verbal Abilities	32	22
4. Common Knowledge	19	26
5. Practical Judgment and Abilities	20	14

From this comparison it is seen that the new scale is remarkably similar to the old in its distribution and classification of tests. The chief change is in the direction of decreasing the tests dependent on school training and increasing those dependent upon language comprehension and usage. However, many of the tests of comprehension of practical situations are verbally stated and, as we have seen, the number of strictly nonverbal tests has been increased in the new scale.

Standardization Samples. The general standardization of the scale would have been more dependable in clinical practice had it not been for the nature of the sample of cases upon which the selection and the scoring of the tests were based. When the occupational levels of the fathers of the 2757 cases were listed according to the

Goodenough classification, only about 16 per cent belonged in the two lowest classes of slightly skilled and unskilled laborers, whereas 31 per cent of the employed males in the United States were listed by the last census in these divisions.[8]

Considering the fact that in clinical practice the great majority of cases to whom the tests are commonly applied for diagnostic purposes belong in the lower industrial and economic levels of society, it is a great pity that the testing sample did not include 60 per cent (instead of 16 per cent) of children of this type. Though Mexicans and Negroes were excluded from this sample, if both these groups and the children of recent immigrants are subjected to the tests, there is great likelihood that the old diagnostic standards will be applied and the number of defectives will again be grossly exaggerated.

The part played by social background and language disabilities in affecting Binet scores is indicated by the fact that the average I.Q. of clinic cases in Hawaii shows, for most racial groups, a tendency to rise. Table IV gives the averages at four points in the past twelve years. The increase can be attributed not to any marked difference

TABLE IV

BINET I.Q.'S OF CLINIC CASES

Group	1927		1932		1936		1939	
	Number	*Average*	*Number*	*Average*	*Number*	*Average*	*Number*	*Average*
Chinese	75	74	638	84	446	87	923	86.6
Japanese	136	75	1350	81	748	84	2195	83.2
Portuguese	163	71	608	75	499	75	1066	77.4
Filipinos	26	71	198	73	116	73	340	76.2
Puerto Ricans	39	64	419	71	167	67	429	71.7

[8] See Terman, L. M., and Merrill, Maud A., *Measuring Intelligence*, p. 14.

in the selection of cases, nor to any improvement in the general average of the population, but in some degree to greater facility in the use of English, thus making it possible for clinic children to earn more credits on the tests. In the table the 1932 results include the 1927 cases, and the figures for 1939 include the cases for 1936. The comparisons can best be made between the second and fourth columns of I.Q's.

Application of the New Scale to Children in Hawaii. The figures in Table IV relate almost solely to clinic cases examined by the Stanford revision. It is interesting to compare them with the results obtained with unselected children when the new Terman-Merrill scale is used.

A very brief trial of the new scale showed that it is not properly applicable to children below average social grade or under conditions where language disabilities are known to exist. Sixty children in the third, fourth, and fifth grades of Honolulu schools, who were picked by their teachers as being of about average intelligence, were examined by the full scale (Form L). These children were equally distributed in three groups—nine, ten, and eleven years old, respectively. The results of the examination were most interesting. The average I.Q.'s of each group did not differ more than a fraction of a point, indicating that the groups were equivalent in Binet performance. The average I.Q. of the whole was 83, with an S.D. of 10.6 points. Only 5 of the group reached a test quotient of 100 or above. Quite evidently the new Binet depressed each group equally. All these children were English-speaking, and no more than 50 per cent were bilingual; thus they might be considered representative of Honolulu school children. But to say that they were actually 17

points below the mainland children in intelligence would be grossly unfair, for this statement could not be supported by any other consideration.

The application of performance tests showed no such deficiency, except for one or two groups like the Puerto Ricans, who do not represent a good immigration selection. Oriental children are not considered as being much, if any, below white levels of intelligence. In mental caliber they would compare favorably with any socially underprivileged white group in continental America.

New Composite Scale. On the basis of this application of the scale, plus general experience, the tests were classified as carefully as possible and those which seemed least dependent upon language comprehension were chosen from forms L and M. Some verbal tests, such as vocabulary tests in the upper years of the scale, were retained, so that the new composite scale consisted of 4 tests at most age levels, 3 months' credit being allotted for each success. To match the complete scale more clearly, 8 tests were retained at the three-year, four-year, and average adult levels, credit for each success being 2 months at the lower levels and 3 months at the highest.

Some tests of the old Stanford revision were also retained, among them being the arrangement of weights (formerly IX-2 in the Stanford-Binet). A new test in mental arithmetic was added to fill the wide gap between the easy arithmetic tests at nine years and the more difficult tests at the average adult level.

In the new Binet the word-association test appears only once, and instead of naming 60 words in 3 minutes, as in the old scale, the child is required to name 28 in 1 minute. This shortening of the test robs it of some of its significance, as it prevents the detection of the child who

gives a great rush of associations in the first minute and progressively very many fewer in the second and third minutes, his stock of ideas being apparently exhausted. To suit children with language handicaps, the number necessary for success was reduced to 50 words in 3 minutes. The vocabulary score was also reduced from 14 words to 10 words at XII, from 16 words to 13 words at XIV, and from 20 words to 18 words at the average adult level.

The following is the list of tests selected as a modified composite scale which is recommended for use with socially underprivileged children or with all cases with language disabilities. According to clinic experience, children of this type make up about 60 to 75 per cent of the cases referred for examination. Though the modified scale is still somewhat overweighted with memory tests, the inclusion of all the tests of practical ability and, in addition, the very considerable reduction in the number of tests which reflect language facility make it much fairer to apply this scale to these children.

Modified Composite Binet
(Forms L and M)

Test	*New Scale Placement*	*Classification*
YEAR III—2 MONTHS' CREDIT		
1. Stringing Beads	L-III No. 1	Practical ability
2. Block Building	L-III No. 3	Practical ability
3. Repeating 3 Digits	L-III No. 6	Memory
4. Picture Vocabulary	L-III No. 2	1. Language, 2. Common knowledge
5. Comparison of Sticks	L-III-6 No. 3	Practical comprehension
6. 3-Hole Form Board	ALT.	Practical ability

Test	New Scale Placement		Classification
YEAR IV—2 MONTHS' CREDIT			
1. Pictorial Identification	L-IV	No. 4	Language
2. Aesthetic Comparison	L-IV-6	No. 1	Practical comprehension
3. Repeating 4 Digits	L-IV-6	No. 2	Memory
4. Pictorial Differences	L-IV-6	No. 3	Practical comprehension
5. Stringing Beads	M-IV	No. 2	Practical ability
6. Number Concept of 2	M-IV	No. 5	Common knowledge
YEAR V—3 MONTHS' CREDIT			
1. Copying a Square	L-V	No. 4	Practical ability
2. Number Concept of 3	M-V	No. 2	Common knowledge
3. Fitting Rectangles	M-V	No. 4	Practical ability
4. Missing Features	M-V	No. 6	Practical comprehension
YEAR VI—3 MONTHS' CREDIT			
1. Counting 13 Pennies	M-VI	No. 5	School attainments
2. Pictorial Differences	L-VI	No. 5	Practical comprehension
3. Bead Chain	M-VI	No. 2	Memory
4. Opposites	M-VI	No. 6	Language
YEAR VII—3 MONTHS' CREDIT			
1. Picture Absurdities	M-VII	No. 3	Practical comprehension
2. Copying Diamond	L-VII	No. 2	Practical ability
3. Repeating 5 Digits	L-VII	No. 6	Memory
4-a. 3 Digits Reversed*	M-VII	No. 4	Memory
4-b. Counting Taps *	M-VII	No. 6	School attainments
YEAR VIII—3 MONTHS' CREDIT			
1. Memory for Stories	L-VIII	No. 2	Memory
2. Similarities	M-VIII	No. 2	Common knowledge
3. Days of Week	M-VIII	No. 4	Common knowledge
4. Opposites	M-VIII	No. 6	Language
YEAR IX—3 MONTHS' CREDIT			
1. Weights in Order	Old scale		Practical judgment
2. Making change	L-IX	No. 5	School attainments
3. 4 Digits Reversed	L-IX	No. 6	Memory
4. Dissected Sentences	M-IX	No. 2	Language

* Credit given for success in either but not in both.

Test	New Scale Placement		Classification
YEAR X—3 MONTHS' CREDIT			
1. Picture Absurdities	L-X	No. 2	Practical comprehension
2. Reading and Report	L-X	No. 3	½ School attainments, ½ Memory
3. Word Naming (50 in 3 min.)	L-X	No. 5	Language
4. Repeating 6 Digits	L-X	No. 6	Memory
YEAR XI—3 MONTHS' CREDIT			
1. Similarities	L-XI	No. 6	Common knowledge
2. Defining Abstract Words	L-XI	No. 3	Language
3. Bead Chain	M-XI	No. 2	Memory
4. Mental Arithmetic	New		School attainments
YEAR XII—3 MONTHS' CREDIT			
1. Vocabulary (12 words)	L-XII	No. 1	Language
2. 5 Digits Reversed	M-XII	No. 6	Memory
3. Memory for Designs	M-XII	No. 1	Memory
4. Picture Absurdities	M-XII	No. 5	Practical comprehension
YEAR XIII—3 MONTHS' CREDIT			
1. Plan of Search	L-XIII	No. 1	Practical ability
2. Dissected Sentences	L-XIII	No. 5	Language
3. Bead Chain	L-XIII	No. 6	Memory
4. Defining Abstract Words	M-XIII	No. 4	Language
YEAR XIV—3 MONTHS' CREDIT			
1. Vocabulary (14 words)	L-XIV	No. 1	Language
2. Picture Absurdity	L-XIV	No. 3	Practical comprehension
3. Ingenuity Test	L-XIV	No. 4	Practical judgment
4-a. Reasoning Test *	M-XIV	No. 1	Practical comprehension
4-b. Changing Clock Hands *	Old scale		Visual memory
AVERAGE ADULT—3 MONTHS' CREDIT			
1. Vocabulary	L-No. 1		Language
2. Arithmetic	L-No. 4		School attainments
3. Proverbs	L-No. 5		Language
4. Ingenuity	L-No. 6		Practical judgment
5. Repeat 7 Digits	Old scale		Memory
6. Essential Differences	M-No. 7		Language

* Credit given for success in either but not in both.

Advantages of Composite Scale. For clinical purposes this composite scale has several advantages. From children below school age a minimum of verbal responses is required, so that the subject who is shy and unresponsive is under no handicap. In the first sixteen tests the child is expected to make a verbal reply in only four; in the rest he is required to *do* something rather than to say something. The similarity to the original scale is very closely preserved, thus making little change in the standardization. A minimum amount of apparatus is needed, and a couple of valuable tests—such as the arranging of weights and repeating 7 digits in order, which were included in the Stanford-Binet—are restored to the scale. Whether as an oversight or otherwise, the rote-memory test in the Terman-Merrill scale jumps from 6 digits to 8 digits. In only one year of the composite scale given above is more than one language test included. The result, as Table V shows, is a well-balanced test selection.

It is evident that the composite Binet scale resembles the Stanford-Binet very closely in its distribution of tests in the various categories. The differences are that the percentages of tests of language and of comprehension of practical situations have been somewhat reduced, while those of the tests of practical judgment and memory have been correspondingly increased. The proportion of tests of practical intelligence in the composite Binet scale is 43.3 per cent, as against 44.5 per cent in the Stanford-Binet scale. Yet, though the constitution of the composite Binet is very similar to the Stanford-Binet and selects its tests almost entirely from the new scale, the changes in the single tests are such that children with language disabilities are not discriminated against, as the average performances given in Table VI, page 130, show.

TABLE V

COMPARATIVE CLASSIFICATION OF TESTS

Classification	*Stanford Revision*		*New Terman-Merrill* (Form L)		*New Composite Scale* (Forms M and L)	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Memory	20½	22.8	21½	22.2	14½	24.2
School Attainments	7½	8.3	4½	4.6	5½	9.2
Language	22	24.4	32	33	14	23.3
Comprehension Practical Situations and Common Knowledge	26	28.9	19	19.6	15	25
Practical Judgment and Skill	14	15.6	20	20.6	11	18.3
Total Tests Practical Intelligence	40	44.5	39	40.2	26	43.3

As was previously mentioned, in comparison with Form L, the composite scale shows rather marked changes, particularly in the direction of reducing the percentage of tests dependent on language and increasing the proportion of tests involving the comprehension of practical situations. The composite scale is a little overloaded as regards memory tests, but these are of the type which test visual memory (as, bead chains) or require a very brief verbal response. Such tests suit the Oriental children better than language tests.

Application of the Composite Scale. In order to measure the effect of these changes, the modified scale in its first form was applied to 608 children attending school in an average section of Honolulu. The results are given in Table VI. Instead of the low average of 83 found in the previous study, the test quotients were now signifi-

cantly higher, indicating that little adjustment is necessary in applying the scale in Hawaii. It should be emphasized that the composite Binet scale is taken directly from forms L and M and represents merely a differently balanced Terman-Merrill scale.

TABLE VI

BINET SCORES—MODIFIED COMPOSITE SCALE

Chronological Age	*Number*	*Average* M.A.	*Average* I.Q.	S.D. (in I.Q. points)
7.6	70	7.8	102	12.7
8.4	94	7.9	93	10.4
9.5	73	9.1	96	14.4
10.5	70	10.3	98	12.4
11.5	68	10.8	94	13.2
12.5	73	11.3	91	12.2
13.4	90	11.6	88	15.1
14.5	70	12.8	92	12.3

After considering the responses to the tests in detail, several changes were made, such as the reduction of the number of words to be correctly defined in the vocabulary tests, the retention of the easier test for memory for designs, and the inclusion of the mental arithmetic test in Year XI, replacing tests that were more difficult for local children. The results of these changes are undoubtedly in the direction of easing the difficulty of the scale in the upper levels, so that the average test quotients will be raised. As it now stands, the composite scale is decidedly usable in clinical practice with children who are either handicapped by language disabilities or who come from the socially underprivileged classes. For the rest, either Form L or Form M seems to give a fair measure of mentality.

Critical Comments on the New Binet Scale. Considering the new scale as a whole, we may conclude that in many respects it is an improvement on the old, principally in the increase of the number of available tests through the provision of alternative forms and the extension of tests in the upper years. On the other hand, some of the deficiencies of the old scale are still apparent. Only in language ability and rote memory is there anything like an adequate progression of tests from infant to adult levels. If, for example, it is worth while to examine arithmetical ability at all, it might be done much more adequately. This criticism is in line with that of F. L. Wells, who would prefer a series of subtests balanced between verbal and nonverbal functions, extending throughout the whole chronological range. To Wells, tests of the Binet type lack functional organization: "They represent an embryonic, undifferentiated mass-reaction phase in psychometric development." [9] This point of criticism is well taken and is referred to again later.

An interesting discussion on the merits and demerits of the new scale took place at a meeting of clinical psychologists in England, followed by the publication of the views of R. B. Cattell and P. E. Vernon.[10] The former holds with Spearman that the Binet should be replaced by tests which are more up-to-date measures of *g*. He contends that the scale is influenced by scholastic attainments and life experience rather than by *g*. Vernon, on the other hand, points out that the psychologist at a school or child-guidance clinic does not want the best tests of *g* or of other factors but rather tests which most

[9] *Nineteen Thirty-eight Mental Measurements Yearbook,* edited by Oscar K. Buros, Rutgers University Press, New Brunswick, N. J. See the review by F. L. Wells on p. 113.

[10] See *Character and Personality,* Vol. 6, December, 1937.

nearly resemble the practical situations of everyday life. The experience of clinical psychologists in America would probably accord with this statement, with one modification: It is not necessary to *duplicate* situations of everyday life in the tests, provided that the abilities examined can be shown to be relevant to life experience. We must judge intelligence by setting up critical situations which call for the operation of abilities basic to adjustment to those environmental stimuli which everyday life affords.

Some of Cattell's other criticisms seem to be much more valid. He considers the tests too few in number and especially inadequate at the upper age levels. He also thinks that the face-to-face or interview situation involved in the individual examination may have an adverse emotional effect on the child. He, with Wells, also objects to a single quantitative measure (such as mental age) being arrived at by testing a hodgepodge collection of mental abilities. This last criticism is borne out by clinical experience. Two individuals may have the same mental age but exceedingly different mental abilities. This brings up the necessity for proper interpretation of the tests, as well as the matter of establishing rapport with the subject. As Kawin has remarked, "the tests should be in the hands of thoroughly trained *psychologists* who are competent to administer, score, and interpret them with adequate appreciation of their significance and full awareness of their limitations." [11]

Cattell makes the general suggestion that some of the years of research that have been devoted to the Binet might well have been spent in developing techniques for assessing temperament and character. With the same evident appreciation of the deficiencies of the scale, Vernon

[11] See *Childhood Education*, Vol. 14, September, 1937.

makes a distinction between the psychometric and the clinical approach, together with the sound recommendation that in psychological service the two approaches should be combined.

Spearman's chief complaint with regard to the new scale seems to be that though Terman once suggested ability for abstract thinking as the basis for a definition of intelligence, he shows little tendency in his choice of tests to carry this definition into effect. In this case, Terman's practice is better than his theory, since a test aimed at abstract thinking would have a very limited application in clinical use.

Spearman points out how inadequate is the discrimination value, or increase in per cents passing from one age to the next, as a sole criterion of validity. In criticizing the Arthur Point Scale, in which the subtests are weighted according to this principle, Porteus some years ago advanced the same objection, pointing out that growth in stature would satisfy the criterion very well but should hardly be included in a mental test scale on this account. Discriminative value may be one criterion, and an important one, but to use it as the chief or only criterion in the weighting or selection of tests is not justifiable.[12]

Another psychologist whose clinical experience makes his evaluation of the new scale noteworthy is Cyril Burt, the author of an English form of the Binet scale. His attitude is generally favorable to the new scale, one of his minor objections being the excessive cost of the materials. In one direction, however, his approval seems somewhat hastily given: he commends the authors of the new scale for reducing the verbal element, especially through the

[12] Porteus, Dewey, and Bernreuter, *Race and Social Differences in Performance Tests,* Clark University Press, Worcester, Mass., 1930, p. 139.

use of nonverbal material in the lower years. Experience with children with language handicaps indicates that this advantage is more apparent than real. The response required from the child may not be verbal, but the form of the question often involves considerable verbal comprehension. For example, the last three tests in the three-year level in Form L require a description of pictures, carrying out verbal instructions, such as, "Show me what we use to iron clothes on," and answering questions, such as, "Why do we have stoves?"

The fact that the instructions or explanations that precede a test are often quite complicated is frequently overlooked, tests being classified as of the performance type when, in reality, the verbal element is quite large.

With regard to other comments, there are some objections as to the statistical basis of the scaling (F. L. Goodenough and J. C. Flanagan); to the cost of the materials that are required for the application of the tests (E. N. Nevill and Cyril Burt); and to the authors' apparently needless prohibition against the presentation of such tests as those of rote memory in series (F. N. Maxfield and A. H. Martin).

With this summary of adverse comments goes an almost general chorus of approbation of the improved standardization, the wider range of testing, the inherent interest of the test items, the provision of alternative forms, and the care, the thought, and the experimentation that have gone into improvement of the scale. But underlying this welcome of a most notable piece of scientific work is a mistrust that the new Binet will be subjected to the same misuse as the old. The fear that it may still be regarded as an adequate diagnostic measure is emphasized by Maxfield in one of the most favorable re-

views of the scale. He points out "the necessity for the interpretation of test results in the light of the clinical history, and of the evaluation of other psychological factors outside the range of the sampling included in these scales." [13]

Program of Diagnostic Test Development. Is there any reasonable expectation that a single really adequate diagnostic scale will ever be developed? To attempt to answer this inquiry, we must go back to the criterion of intelligence set forth in a previous definition—the range and complexity of relevant stimuli. In the first place, then, the first step in the examination of the intelligence of an individual is to examine the range of relevant stimuli to which he can respond. The home, the school, the playground, and the neighborhood community together call for a wide range of abilities which the normal boy or girl is expected to possess—though not to any high degree of specialization. This is the justification for tests of the hodgepodge type covering all the kinds of abilities that psychological insight plus statistical methods can suggest. Tests of this nature should be applicable up to the level of average adult ability, which may be placed between thirteen and fourteen years. Where the Binet is unable to supply serial testing of abilities throughout this chronological range, it should be supplemented by other tests, taking care to assure a proper balance between verbal and nonverbal material.

But when we have determined the range of relevant stimuli, we should discard this generalized approach and set up a series of carefully graded subtests, examining separately such abilities as literary, mathematical, and

[13] Maxfield, F. N., *Educational Research Bulletin,* Vol. 16, October, 1937.

mechanical aptitudes, speed of manipulation, reasoning of various types, artistic ability, or as many capacities as modern techniques, such as factorial analysis, may suggest. Incidentally, in limiting this testing to the upper chronological ages, we can diminish the difficulty of selecting populations from which to obtain correlational matrices for analysis.

This plan would effect a compromise between the psychometric and the clinical point of view and would get rid of a most serious objection to tests of the Binet type being used in the upper levels. It seems entirely opposed to clinical experience to penalize an individual with splendid literary ability because he is unable to deal adequately with another set of complex stimuli, such as mathematics; yet this is exactly the effect of the Binet scoring system. On the other hand, if a person has merely a tithe of Paderewski's musical ability, or of Edison's constructive insight, it is entirely immaterial whether or not he can repeat 8 or 9 digits from memory or define certain abstract terms correctly or do many of the things that are expected from a "superior adult" in the Binet tests. A man with music or painting flowing from his finger tips may keep his tongue between his teeth and still be accounted highly intelligent. This is the verdict of life experience, and clinical practice must fall into line. It must be remembered that before the days of talking pictures Charlie Chaplin and his ilk won wealth and fame by their consummate use of the bodily mechanisms for social display, though otherwise they might be as silent as a peak in Darien. No other examples of the value of specialization should be necessary. It is essentially a process of responding to more and more complex stimuli of a specific kind. There are, of course, individuals whose

level of abilities is more uniform, without marked development in any special direction, and to these also the technique of graded subtests would apply.

In the meantime, until a more acceptable basis for devising and combining tests is worked out, clinical psychologists must proceed with diversified testing, relying on psychological insight and experience in choosing examination schedules, and balancing test verdicts against one another for the purposes of mental diagnosis and social prognosis.

References for Chapter V

Berry, R. J. A., and Porteus, S. D., *Intelligence and Social Valuation,* Training School, Vineland, N. J., No. 20, 1920

Binet, Alfred, and Simon, T., *The Intelligence of the Feeble-minded* (translated by Kite), Training School, Vineland, N. J., No. 12, June, 1916

——, "Le développement de l'intelligence chez les enfants," *Année psychologique,* Vol. 14, 1908

Boynton, Paul L., *Intelligence: Its Manifestations and Measurement,* D. Appleton-Century Company, Inc., New York, 1933 (See Chapter V.)

Bronner, Augusta F., and Others, *A Manual of Individual Mental Tests and Testing,* Little, Brown & Company, Boston, 1927

Burt, Cyril, *Mental and Scholastic Tests,* London County Council, 1921

Dearborn, W. F., *Intelligence Tests,* Houghton Mifflin Company, Boston, 1928

Goddard, Henry Herbert, "The Binet and Simon Tests of Intellectual Capacity," *Training School Bulletin,* Vol. 5, 1908

——, "A Measuring Scale for Intelligence," *Training School Bulletin,* Vol. 6, 1910

Kuhlmann, F., "The Binet and Simon Tests of Intelligence in Grading Feeble-minded Children," *Journal of Psychoasthenics,* Vol. 16, 1912

Porteus, S. D., *Condensed Guide to the Binet Tests,* Training School, Vineland, N. J., No. 19, 1920

Schieffelin, Barbara, and Schwesinger, Gladys C., *Mental Tests and Heredity,* Galton Publishing Company, Inc., New York, 1931

Terman, Lewis M., *The Measurement of Intelligence,* Houghton Mifflin Company, Boston, 1916

Terman, L. M., and Merrill, Maud A., *Measuring Intelligence,* Houghton Mifflin Company, Boston, 1937

Yerkes, R. M., and Foster, J., *A Point Scale for Measuring Mental Ability,* Warwick & York, Inc., Baltimore, 1923

CHAPTER VI

Performance Tests as Diagnostic Measures

From the foregoing discussion it should be evident that the Binet scale, whether new or old, falls far short of being an all-sufficient measure of intelligence. Though it collects within the one series a heterogeneous mass of tests of language facility, memory, common knowledge, and ability to solve a variety of problems verbally presented, it still does not provide an adequate index of versatility or flexibility of response. But while this is true, it should not be supposed that the limitations of the Binet are the limitations of tests in general. This assumption, however, is sometimes made, as in the following textbook description of the role of tests:

> The intelligence tests measure the ability to use one type of substitute response in the solution of problems, namely, the language reactions of the schoolroom.[1]

This chapter endeavors to show that testing in clinical practice examines a far wider range of responses to relevant stimuli.

One of the important gaps that are not filled by the verbal tests is the testing of manipulative ability. There are, especially in early childhood, quite a number of situations in which this capacity is valuable. Every child must learn to dress himself, and the management of buttons

[1] Reprinted by permission from *Psychology, a Factual Textbook*, by Boring, Langfeld, and Weld, published by John Wiley & Sons, Inc., New York.

and laces requires considerable manipulation. Playing with mechanical toys and games of skill, together with the operation of household devices, calls for a certain degree of manual dexterity of a rather simple nature. The capacity seems to have only a moderate amount of exercise in later childhood and that mainly in such mechanical operations as learning to draw and write at school. Perhaps for this reason scales such as the Binet make little provision for testing manipulative skill. The drawing of the square and the diamond and a test of bead-threading and paper-folding seem to be the only tests of this nature, and these occur at low levels. Tying a bowknot, which was used in the Stanford revision, has now been simplified to a test of tying a knot of any kind and has been relegated to the status of an alternative test. It is well to remember that, though so little attention is paid to testing manipulative ability in the Binet scale, a large number of children will ultimately earn their living as skilled or semiskilled manual workers, a condition which should be taken into account in our intelligence testing program.

As a matter of fact, the testing of what was then called voluntary motor ability was begun many years ago. Gilbert [2] and Bryan [3] were two of the early experimenters who established age norms for such activities as tapping and accuracy of movement. The data which they gathered show a fairly steady increase of ability with chronological age from six to sixteen years.

Table VII represents a smoothing of the results obtained by Gilbert on the number of taps in five seconds,

[2] Gilbert, J. A., *Researches on the Mental and Physical Development of School Children,* Yale Studies in Psychology, Vol. 2, 1894.

[3] Bryan, W. L., "On the Development of Voluntary Motor Ability," *American Journal of Psychology,* Vol. 5, 1892.

TABLE VII

NUMBER OF TAPS IN 5 SECONDS (Gilbert's Data)

	Age in Years													
	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Boys	22	23	25	27	28	29	30	31	32	33	34	35	36	37
Girls	22	24	25	26	27	28	29	30	30	31	32	33	34	35

and illustrates one of the first applications of the principle of age standardization.

These results were obtained with the use of an electrical counter, however, and for ordinary clinical purposes the less instruments in use the better.

The arrangement of the test by Bronner, Healy, and others [4] combines features of accuracy with speed and requires no more apparatus than a pencil and sheets of paper on which are printed 150 half-inch squares arranged in lines of tens. The task is to tap once in each square, the time limit being 30 seconds. Meehan and Shimberg established norms for speed on a percentile basis. The fifty percentiles or medians are given in Table VIII, the girls' superiority being apparent at each age.

Tests of this nature are seriously neglected in clinical practice. They require little apparatus, are easy to give

TABLE VIII

MEDIAN SCORES IN WHIPPLE-HEALY TAPPING TEST

	Age in Years									
	8	9	10	11	12	13	14	15	16	16+
Boys	51	53	58	63	67	74	80	81	87	91
Girls	..	..	63	69	73	84	85	87	91	95

[4] Bronner, A. F., and Others, *A Manual of Individual Mental Tests and Testing,* Little, Brown & Company, Boston, 1927.

and simple to score, and are apparently finely discriminative, at the same time yielding valuable information regarding the motor co-ordination of subjects which, probably, cannot be obtained so easily in any other way. Left-hand and right-hand records should be taken. Considering that only a few minutes are required to administer the test, it should be included in the clinical battery.

Mechanical Ability Tests. When more time is available, and especially when there is some special reason for attempting to measure practical ability, as in the case of boys nearing the employment age, the MacQuarrie Test for Mechanical Ability may be used. This scale contains subtests of manipulative speed, recognition of space relations, motor control, and visual acuity. It includes: (1) a tracing test of accuracy of movement, the task being to draw a continuous line through irregularly placed gaps in a series of parallel vertical lines; (2) a tapping test in which the subject taps 3 times in each of 70 small circles arranged in 7 lines; (3) putting a dot in each of a number of very small circles strung irregularly along lines; (4) reproducing given designs by connecting a series of dots—a test of judgment of position; (5) allotting letters to dots by their position in accord with a given chart; (6) reckoning the number of blocks in contact with a designated block in a regularly arranged pile; (7) following with the eye the course of a single line through a tangle of other lines.

The norms, as given by MacQuarrie,[5] rise in decreasing increments of score from ten to nineteen years of age; but experience in Hawaii shows no appreciable increase in score from sixteen years onwards.

[5] MacQuarrie, J. W., *MacQuarrie Test for Mechanical Ability*, Southern California School Book Depository, 1925.

TABLE IX

MacQuarrie Mechanical Ability Norms

Age Group	*Mainland Medians*	*Hawaiian Medians*
10 years	26	35
11 years	37	41
12 years	44	47
13 years	49	49
14 years	53	51
15 years	57	56
16 years	60	63
17 years	63	62
18 years	65	63
19 years	67	63
20 years	68	

Table IX shows the mainland American and the Hawaiian results. The latter data were collected by Miss M. Moody.[6]

That some allowances are necessary for racial differences in performances is shown by the results obtained by Miss Moody with Honolulu school pupils. These are given in Table X.

TABLE X

Racial Differences in MacQuarrie Test

Group	*Number*	*Median Score*
Japanese	564	57.17
Whites (less Portuguese)	95	56.73
Chinese	64	49.58
Portuguese	84	44.5
Part Hawaiians	160	43.68
Filipinos	74	42.14
Pure Hawaiians	32	36.88

[6] Moody, Mary W., "The MacQuarrie Test," unpublished thesis, University of Hawaii, 1938.

Nonlanguage Tests: The Pintner-Paterson Scale. But even with the inclusion of mechanical aptitude tests in our clinical battery of tests, there are still some important gaps that should be filled before the range of response to everyday situations is sufficiently covered. The criticism of a too narrow mental-trait inventory has for many years been leveled against verbal tests such as the Binet, but for a long time with little avail. The Binet continued to be considered all-sufficient, so that performance scales were at first regarded as nonlanguage tests whose purpose it was to serve as substitutes for a Binet examination when for various reasons the latter was inapplicable. Wells,[7] for example, lists the types of cases to which the performance scales were to be applied as, those without command of English, illiterate persons without verbal facility, verbalists whose intelligence is liable to be overestimated or conversely, the tongue-tied, and, finally, the deaf. The writer has always strongly held to the opinion that performance tests should be applied to *all* children and, wherever there is a question of mental diagnosis, should be admitted to equal status with the verbal or language tests.

One of the first attempts to devise a substitute for the Binet scale, especially for use with the deaf, was the Pintner-Paterson scale, published in 1916. The tests may be briefly described as follows:

(1) The Mare and Foal Test is a picture form board, the missing parts being replaced by reference more to their shape than to pictorial content.

(2) The Seguin-Goddard Form Board is a test of speed of perception of geometrical forms and manipulation.

[7] Wells, F. Lyman, *Mental Tests in Clinical Practice*, p. 115.

(3) The Five-Figure Form Board is a rather simple test of spatial relationships, the task being to combine parts into a geometrical whole.

(4) The Two-Figure Form Board is a similar test of ability to perceive space relationships.

(5) The Casuist Form Board is similar in character to (3), but it is more difficult because the forms are rounded.

(6) The Triangle Test is another test of combining geometrical segments.

(7) The Diagonal Test is similar to (6).

(8) The Healy Construction A Test requires that five small rectangles be combined so as to fit into one large rectangle.

(9) The Manikin Test is a test of space and form relationships similar to the form boards, except that the forms are to be combined to form the conventionalized shape of a man.

(10) The Feature Profile Test is similar to (9), except that a man's head only is to be reconstructed.

(11) In the Ship Test rectangles are to be combined to complete the picture of a ship.

(12) In the Picture Completion Test I (Healy), the first test in the Pintner-Paterson scale that is not a test of spatial relationships, the missing insets are chosen according to their logical relation.

(13) The Substitution Test, matching geometrical forms with numbers, is a test of associative memory.

(14) The Goddard Adaptation Board is a simple test of discrimination of size.

(15) The Knox Cube Test is a rather specific test of memory involving movements or positions in series, tested by tapping four cubes in a certain order or pattern.

This merely cursory analysis of the scale is sufficient to reveal how dependent it is upon tests of a single trait or complex of traits—the ability to see spatial relationships quickly. No less than eleven tests are of this character, leaving only four—two tests of memory, one of logical relationships involved in completing a picture, and one of comparison of size—to complete the scale.

In describing the scale, Pintner suggests its intended purpose in the following statement:

> Those who believe that intelligence may show itself in reactions to concrete material, as well as in verbal reactions, have therefore stressed the value of performance tests.

It would seem, however, that including in a total score mental ages derived from no less than eleven tests of the form-board type is equivalent to a great overemphasis on testing reactions to concrete material of a particular type. The question at once arises whether this ability enters just as largely into the everyday experiences of the child. Undoubtedly, the complex of traits that underlies constructive ability is very important, but there is considerable doubt whether this ability covers such a wide segment of the range of relevant stimuli. The other three tests in the scale—the Knox Cube, Healy, and Substitution tests—are all very suggestive, but to combine their unweighted results with such simple subtests as the adaptation board would appear to be unjustifiable. A preferable clinical practice is to use the Goddard Adaptation Board separately as a test of speed of perception of forms and, instead of using the Healy Picture Completion Test I, to follow a similar procedure with the Healy Picture Completion Test II in substitution for Test I, a much inferior test. Unfortunately, tak-

ing these tests out of the series almost completely nullifies the value of the Pintner-Paterson scale. However, the standardization worked out by these authors enables the clinician to make his own selection of tests from the scale, and several tests of the construction type may well be included in the test battery.

If it is desirable to make a more direct approach to the examination of mechanical aptitude, the Stenquist Assembly Test seems to offer special value. It consists of a number of unassembled parts of mechanical devices, which must be put together within a time limit. This test has a high reliability ($r = .94$), and its validity, as tested against the criterion of shop success, is also as satisfactory as can be expected. The value of this test is to some degree lessened because of its dependence on the previous experience of the subject with mechanical appliances. However, interest and ability are probably closely related. The time necessary for giving and scoring the test, however, precludes its use in general.

Tests of Prudence and Foresight. By means of these and other similar tests, the clinician may obtain a fairly reliable measure of the subject's mechanical ability, but there still remains the difficult task of attempting to examine certain aspects of social intelligence. From the previous discussion of the role of cortical inhibition in the determination of kinds of conduct, it should be evident that one of the most important traits in social intelligence is the tendency to control hasty or ill-considered action. In other terms, this aspect of adaptive behavior will be dependent not only on the intellectual factors essential to good planning, but also on temperamental qualities, such as the tendency towards taking time for preconsideration or mental rehearsal before acting.

It needs little consideration to see that prudence and foresight are necessary in every kind of adaptive behavior. Whether it is the workman driving a nail, the builder planning a house, the student solving a problem, the politician framing a policy, the writer producing a poem or a story, or the businessman executing a deal—in each case there must be knowledge and experience of the material dealt with and then careful planning in manipulating the material to bring about the desired end. In most of these activities temperamental traits may not be so apparent, but in social relations they seem to be of utmost importance. Like other complex qualities, temperament may be best defined negatively as those traits which outside of intelligence militate most against individual success. Some psychologists have largely identified temperament with personality and consider it a habit of mind with a constitutional basis.

Extreme impatience or irascibility, irresolution or lack of courage to carry through a planned course, mental or physical lethargy, overconfidence, distrust of one's ability, overweening desire for attention, resentfulness of criticism, heedlessness, a tendency to mental confusion in emergency—these are some of the defects of personality which seem most closely allied to temperamental deficiencies. Success in many ventures seems related to keeping a nice balance between prudence and resolution, so that the one does not degenerate into pusillanimity and the other into foolhardiness or rashness.

If, then, foresight and planning capacity are so fundamental in intellectual, mechanical, and social problems, how is it that we have not learned to exercise them more wisely? The reason may well be that in human evolution planned responses have only comparatively recently be-

come an important part of behavior. We are apparently not very far removed from that stage of existence when relations with the world about us were largely in terms of physical contact. Hence we have not yet learned to restrain sufficiently the tendency to immediate reaction that so many of the close-contact, self-threatening situations demand. In other words, we may say that man, though he has developed the cortex as the organ of delayed choice, has not so far become sufficiently skilled in its use. The invention of speech did a great deal to lift a host of activities out of the immediate-response class by allowing for verbal rehearsals in advance of action. However, in emotional situations many of us have not yet learned to control speech. It, too, may be ill-planned or unconsidered, and an unbridled tongue is certainly a serious social detriment.

So important is planning that its deficiency, especially in social relations, has been made the keystone of at least one definition of feeble-mindedness, an English one, which states that mental defectives "cannot manage themselves or their affairs with ordinary prudence." In industrial activities they are seldom able to work except under almost constant direction, being unable to assume responsibility for any but the most familiar routine tasks.

Can Planning Be Tested? But because there is an important cognitive or intellectual factor involved in our everyday planned responses, it is very difficult to devise a test that will come near the goal of examining basic planning capacity. Obviously, a man who plans a bridge or a ship or a book or a research study must know a great deal about the properties of the material he works with. To find a common denominator in such diverse situations is a most difficult problem. Temperamental fac-

tors are extremely important in satisfactory social relations; but even if an individual demonstrates adequate temperamental traits in a test situation, how are we to know whether similar restraint and foresight will be exhibited when his emotions are involved? Planning is largely intellectual, but the tendency to use planning capacity depends on temperament. The utmost we can do in clinical practice is to reduce the intellectual factor as much as possible by the choice of the simplest test situations. If we test planning capacity at this low level and in a task that does not require special knowledge of the test material, and if we find the individual incapable or unwilling to restrain overt action until he has made a mental rehearsal of the problem and has worked out a step-by-step solution, then we can feel fairly certain that he will be temperamentally inadequate in far more complex social situations.

There are, unfortunately, very few situations which lend themselves to testing prudence and foresight in this way. In the Binet scale, Terman has included the ball and field test designed to test planning, and also a simple maze; but these are found at isolated points in the scale, and they provide no opportunity for the examiner to observe whether the subject is able to modify his plan of attack on the basis of experience. Single tests are of little value in examining such an important trait as planning.

One of the earliest attempts to test planning capacity as such was by means of the puzzle box devised by Fernald and Healy.[8] Here the task set the subject was to

[8] Healy, W., and Fernald, G., *Tests for Practical Mental Classification*, Psychological Monographs, No. 2, Psychological Review Company, Princeton, N. J., 1911.

open the box by releasing in proper order a series of hooks and rings attached to strings. The box had a glass front and there was a hole in the side through which a buttonhook could be manipulated. So much dexterity was involved in the operation that the score did not reflect planning capacity as much as manipulative skill. Another puzzle box, devised by Freeman, could be opened by the operation of levers in correct sequence, a device which reduced the mechanical factor; but unfortunately mental age scores in this test are apparently not available. According to Bronner and Healy, McFarlane found the puzzle box more discriminative of practical ability than any other test used by her in her study of performance tests.[9] However, single tests of this nature cannot be graded for wide ranges of ability.

Another test of planning, to which the last objection does not apply, is a series of graded form boards, each containing six places to be filled with blocks—some with one block, others with two. The difficulty of the upper tests is enhanced by beveling the edges of the insets, so that when turned over they do not fit; in other cases the edges are grooved. The problem becomes one of sorting and fitting. But, like most construction tests, the Ferguson Form Boards call into play a special kind of memory for mass or form. The subject, in making a mental rehearsal of the test, must be able to see in imagination a block in place so as to appreciate the form of the space yet unfilled. In this way he selects the proper combination. These memory images are in a sense eidetic or persistent afterimages of the forms, and this ability for their retention may enter into many everyday situations. Use-

[9] See Bronner and Others, *A Manual of Individual Mental Tests and Testing*, p. 213.

ful as the test may be, the operation of this specific memory for form as an intellectual factor may make it more difficult to assess planning capacity as such.

The Maze as Test Material. No material seems to lend itself so readily to the testing of planning capacity, without being dependent upon previous experience or some specialized ability, as does the printed maze. The designs can be graded in difficulty to cover the range of ability from five to sixteen years; and by increasing the number of "choice points" and allowing second trials, the examiner is given an opportunity to observe certain temperamental aspects of character as revealed by the subject's tendency to readjust his methods and improve his approach to the problem. The most intelligent effort is marked by a rapid preview of the situation, followed by a careful step-by-step solution, modifying methods and using increased foresight and care as the problems become more difficult. This, as seen in the earlier discussion, is characteristic of an intelligent approach to intellectual, mechanical, and social problems wherein each step is the outcome of mental rehearsals of possible solutions or, neurologically speaking, of anticipatory excitations of visual areas followed by synthesized or co-ordinated visuo-motor reactions.

In threading a maze, the only manual skill required is in the simple management of a pencil. That this requires very little manipulative skill was shown by the application of the tests to the wild aborigines of Australia and the equally untutored Bushmen of South Africa, who experienced little difficulty in the use of a tool they had never seen before. The common practice of incising designs on tools and weapons was undoubtedly helpful to them in the manipulation of the pencil.

In addition to the above advantage, no special ability is required in the maze other than a very simple visual memory. As previously indicated, the best solution is step by step, and there is no necessity to keep in mind any complicated design or to use memory for direction, except to a rather limited extent. The fact that the Maze test is so readily applicable to the most primitive peoples is apparent proof of its freedom from special environmental experience. Several of the Australian aborigines, who had had no previous contact with civilization, made almost perfect scores. The experience of investigators is that there is considerable usage of planning capacity in the daily life of savages and that the same temperamental inequalities exist among them as are to be observed between individuals of our own society.

Validity of the Maze Test. One of the chief responsibilities that lies at the door of the deviser of a mental test is to present proofs of its validity, that is, to show that it really measures what he says it does. In the case of a well-used test there is, of course, the cumulative evidence of thousands of cases in which the test results are partially verified by the observations of parents or teachers or by the self-analysis of the subject himself. This, however, is a slow method of proof and presupposes the adoption of the test for clinical use in advance of its validation. Where a test is used for the prediction of scholastic success, a criterion of validity is easily obtainable. This was the secret of the wide adoption of the Binet scale. But when claims are made with regard to social prognostications by use of a test, the task of validation is exceedingly difficult, since few, if any, criteria of social sufficiency are available. The deviser of the test is therefore forced to supply his own criteria. In the case

of the Maze, an opportunity was provided to validate the test against the Social Ratings Scale, a measure of social sufficiency that is described in Chapter VII.

There is no need to make any but passing reference to the history of the Maze tests. They were devised in 1913 and were first described in a paper read before the British Association for the Advancement of Science in August, 1914. They were published in England and America in June, 1915. When we consider the large number of tests that have been devised and discarded in the past twenty-five years, the fact that these tests still survive may be taken as an index of the difficulty that clinical psychologists have experienced in selecting and validating test material for the demonstration of planning capacity and prudence.

Conditions of Testing and Standardization. As the tests are well known, much space need not be devoted to their description. In working through the series from 5 to 14 years, the subject meets with fifty-three choice points where he must use preconsideration if he wishes to avoid an error. It should be pointed out that the value of the test does not consist solely in the choice of the material and the type of problem; the procedure and conditions of application are equally important. Throughout the scale as a whole, repeated trials are allowed, and one of the most important conditions is that the test blank be removed and the second trial begun as soon as a mistake is made. This helps to impress on the subject the seriousness of error and affords the examiner an opportunity to observe what effect, emotional or otherwise, the failure has on the individual. The scale itself has been flattered by imitation, but the forms used in the Army Tests and scored on speed, and others that do not admit

of a readaptation of method after initial failure, seem to have missed one of the main values of the scale.

One difficulty occurs in the standardization of the scale, and this applies to age scales in general. The curve of mental growth begins to flatten out after about 10 years, so that a year is no longer a suitable interval to measure development. We may somewhat arbitrarily label tests 12 years, 13 years, 14 years, and so on, but the time intervals from year to year become too small to serve as measures of the increments of efficiency in the tests. In any case, cutting off the tests at 14 years, even though credit as high as 17 years may be gained, arbitrarily restricts the upper range of possible test quotients for cases chronologically 14 years and above. The highest quotient obtainable by a 14-year-old child is 121, whereas the possible range for younger children is much greater.

Advantages of the Maze Test. Some of the reasons why we include the Maze test in our clinical examination may be briefly summarized.

(1) As planning is an important, if not essential, factor in every adaptive response, some measure of this capacity is necessary. The Maze comes nearest to being a simple basic or generalized test of planning.

(2) The scale takes a very limited time to apply, the average per subject being about 12 minutes.

(3) The material is cheap and easily portable.

(4) It is applicable to non-English-speaking subjects, the 5-year test being used for demonstration purposes, the rest of the directions being given in pantomime.

(5) The test is interesting to children and to adults, both primitive and civilized. Weisenburg,[10] Roe, and

[10] Weisenburg, Theodore H.; Roe, Annie; and McBride, K. E., *Adult Intelligence,* Commonwealth Fund, New York, 1936, p. 68.

McBride report that, in contradistinction to some other performance tests, it was well received by mature adults.

(6) It is applicable to the deaf and dumb, as well as to illiterates.

(7) Errors in the test are self-evident, and the method allows the subject to correct or improve his method.

A Maze test quotient 10 or more points below the Binet quotient is usually very significant, especially in the case of girls. It may mean that the individual is deficient in practical or industrial ability, so that he is actually unable to plan a complicated task. But failure may be due not to any lack of mental alertness in a practical situation, but to the temperamental faults of either impulsiveness or indecision. In order to assign the real reason for a score below the Binet age, the quality of the individual's performance must be carefully observed.

Qualitative Responses. Attention to certain points will, quite apart from the test score, allow of qualitative interpretation. The impulsive, poorly inhibited type of child offends in one or more of the following particulars:

(1) There may be too rapid tracing of the maze.

(2) There may be careless execution—lines crossed, corners cut.

(3) The child may plan the whole course in advance but use no further consideration at "choice points."

(4) The last error is very characteristic of the careless, overconfident (often delinquent) type, who works out the maze in advance but does not give that last modicum of consideration and planning necessary to complete success. These children often underestimate the difficulty of the task and want to "show off" by a quick solution.

(5) Slight errors not scorable by the conditions of the test may be made. The alert examiner will often de-

tect hasty movements in a wrong direction, which are quickly corrected by the subject, before he has actually passed the imaginary line across the opening or at a turning.

(6) Some children—and these are often of the type that habitually disregard directions and insist on doing things their own way—keep lifting the pencil off the paper in spite of warnings not to do so. This warning takes the form, "You may stop and look as long as you like, but don't lift the pencil off the paper." Some children will also attempt to trace the course in the air. This, of course, is not allowed.

The irresolute type and the child who is mentally obtuse or easily confused, and who thus actually lacks planning capacity, may show one or more of the following reactions:

(7) He may ask unnecessary questions, even after the test has been fully explained.

(8) There may be indecision—too long preconsideration of a single test, or long hesitation at "choice points," where the course is obviously blocked.

(9) There may be unnecessary care taken in drawing, the subject misapprehending the real nature of the task.

(10) The child may repeat the same error on an additional trial or trials. Some children stupidly persist in going along the same blocked path.

(11) There may be nervous reactions—too heavy, jerky drawing or wavy, irregular lines.

(12) The child may be easily discouraged, wanting to give up the task.

(13) There may be no tendency to readapt methods after an error.

(14) An error may be made and a second trial required in a test 4 or more years below the final test age. Though there is no increased penalty for errors of this kind, at least the fact that they occurred at a low or easy level should be carefully noted.

Interpretation of Results of the Maze Test. Generally speaking, the first six qualitative defects are more often observable in the juvenile delinquent, while the next six are more characteristic of the reactions of defectives. Faults (13) and (14) seem to be common to both types of cases.

Attention to these fourteen details of the subject's response should be helpful in interpreting the score of the child who makes an absolutely inferior response to the scale or whose score is relatively poor in relation to his Binet performance.

A high test quotient in relation to the Binet is usually indicative of good practical ability or a stable temperament. Again, attention to the qualitative features of the response will be helpful in proper interpretation. The rather dull but cautious child can be detected by the slowness of his reactions. He may make a good score, but the quality of his response is inferior.

Attention should also be called to certain children who show delinquent tendencies but who demonstrate by the test quite superior practical ability, although their Binet mental age is low. Teachers frequently complain that the boy of this type is troublesome, noisy, and a mischief-maker in the classroom. He is fully aware of the fact that in comparison with the rest of his classmates he appears at a disadvantage; in the playground he may be an acknowledged leader in sport and games. The inevitable result is that he dislikes and seeks to avoid the

situation in which he shows so poorly. He either plays truant or asserts his independence by unruly classroom conduct. If he seeks the former means of escape, he often finds his only companions among a gang of older boys. He must maintain his prestige with the group, and the only way he can do this is by showing himself tougher or more adventurous than they.

The athletic, well-grown boy with a Maze score considerably higher than the Binet score should be carefully watched for compensatory reactions in the playground or street. On the other hand, the girl with a Maze score significantly lower than the Binet score is often in danger of becoming sexually delinquent if the ordinary supervision for her age is absent or relaxed.

The Goodenough Drawing Test. With the conception of intelligence as the ability to add to the range and complexity of relevant stimuli, the Goodenough Drawing Test should be a good test of intelligence. The child is asked to draw a man, and the scoring is based largely on the inclusion of such details as eyebrows, pupils of the eyes, fingers, ears, buttons on clothes, proper bodily proportions, and so on. A man is a universally recognizable stimulus-object, and the child's drawing tends to show how complex, in the child's perception, the stimulus has become. Actual artistic skill does not count heavily.

Scored in this way, the test seems comparatively independent of environmental influences. It was found to be easily applicable to Australian aboriginal children, and their performance was relatively good. Fifty-one Arunta children had an average test quotient of 83 (S.D. 15.14). In some cases the children drew the man naked and hence could not gain any points for details of clothing. Children in Hawaii score just about the same as children

on the mainland. Japanese children ($n = 289$) obtained an average test quotient of 98.5 (S.D. 18.66), while Chinese children ($n = 258$) scored 99.3 (S.D. 18.52). White children ($n = 193$) had an average test quotient of 99.8 (S.D. 18.3). The average chronological ages of each of these groups was 9 years, so that for children at this level the standardization of the test is excellent.

Goodenough reports a correlation of .74 between her test and the Binet, but in clinical practice a somewhat lower relationship has been found. Forty cases seen consecutively at the University of Hawaii clinic were taken as the basis of a correlational study. The Binet and Goodenough r proved to be .69, while the correlation between the Maze and Goodenough was .64. For the same group of cases the correlation of the Maze and Binet was found to be .78.[11]

As far as experience with the Drawing Test goes, it should be rated a useful test, easily applied, though somewhat difficult and tedious to score. Its value is greater for children of 6 to 10 years of age than for an age range above these limits. It often will be found to confirm the Binet and Maze results, especially in feeble-minded cases, but there are instances of wide divergences. When these occur they are difficult to interpret. High scores in such cases are apparently not related to the general level of social adjustment. The test is, however, useful as supplying additional evidence of low mental level. As with the Maze test, failure in the test seems more significant than success.

The Healy Pictorial Completion Test. Another extremely interesting performance test is the Healy Pic-

[11] Goodenough, Florence L., *Measurement of Intelligence by Drawings,* World Book Company, Yonkers, New York, 1926.

torial Completion Test II. In this test the subject has to select the most appropriate object to fit in with a pictured activity. The only drawback to the use of the test in clinical practice is the difficulty experienced in interpreting the score. Healy and Bronner agree with Morgenthau that "it is impossible to state at this time just what we are testing." [12] Under these circumstances, the examiner is at a loss how to report the results of the test. That the test has some relation to capacity for social adjustment seems clear from the fact that the feeble-minded usually make low scores.

The standardization [13] based on 1542 cases does not seem very adequate and could probably be improved by a reweighting of items. The median mental age assigned to a score of 9 points is 7 years, and that for 66 points is 16 years. But unfortunately there is a wide range of performance above and below these levels for which no mental age is allotted. Scores have gone as low as −25 and up to a perfect score of 100. The latter score was made by a high-school student (Japanese) whose Binet I.Q. was 90 and whose Maze I.Q. was 82. How is one to interpret such a result? Another child, a delinquent with a Binet I.Q. of 70, had a Healy score of −39. Another with a Binet I.Q. of 72 had a Healy score of 77, about the 75 percentile of the group aged 17 to 20 years. Notwithstanding these strange divergences, the relation to the Binet and the Maze is most interesting.

Three groups of 45 cases each were tested consecutively at the Hawaiian clinic and the rank-order correlations calculated. The Binet-Healy correlations were re-

[12] Bronner, A. F., and Others, *A Manual of Individual Mental Tests and Testing*, p. 186.
[13] *Loc. cit.*, p. 52.

spectively .74, .53, and .35—an average of .54, which may be compared with .44 found by Healy with 282 14-year-olds. The correlations between Maze and Healy were respectively .56, .40, and .65—also with an average of .54. Incidentally, the correlations between the Maze and the Binet for these three groups were .56, .44, and .40. These sets of correlations illustrate how important the matter of sampling really is. Obviously, if we were desirous of making a factor analysis, our results with regard to loadings would differ, depending on which group was used in the investigation.

The Healy Picture Completion Test II is deserving of much more attention and research, as it would be clinically valuable if only its interpretation were easier. At present it is mainly used in confirmation of doubtful diagnoses; but if research work could be instituted which would show the relation between the Healy score and social adjustment, it would find a more secure place in a clinical examination battery.

References for Chapter VI

Herd, Henry, *The Diagnosis of Mental Deficiency,* Hodder & Stoughton, London, 1930 (See Chapter VIII.)

Louttit, C. L., and Stackman, Harvey, "The Relationship Between Porteus Maze and Binet Test Performance," *Journal of Educational Psychology,* January, 1936

Morgenthau, H., *Some Well-Known Tests Evaluated and Compared,* Archives of Psychology, 1932

Pintner, R., and Paterson, D. G., *A Scale of Performance Tests,* D. Appleton-Century Company, Inc., New York, 1917

Porteus, S. D., *Guide to the Porteus Maze Tests,* Training School, Vineland, N. J., No. 25, March, 1924

Porteus, S. D., "Motor Intellectual Tests for Defectives," *Journal of Experimental Pedagogy* (England), Vol. 3, 1915

——, *Primitive Intelligence and Environment,* The Macmillan Company, New York, 1937 (See chapters XIV to XVII.)

——, *The Psychology of a Primitive People,* Edward Arnold & Co., London, 1931 (See Chapter XXI.)

——, *Studies in Mental Deviations,* Training School, Vineland, N. J., 1922

Poull, L. E., and Montgomery, R., "The Porteus Maze Tests as a Discriminatory Measure in Delinquency," *Journal of Applied Psychology,* Vol. 13, 1929

Stenquist, J. L., *Mechanical Aptitude Tests,* World Book Company, Yonkers, New York, 1922

Wallin, J. E. W., *Clinical and Abnormal Psychology,* Houghton Mifflin Company, Boston, 1927

Wells, F. Lyman, *Mental Tests in Clinical Practice,* World Book Company, Yonkers, New York, 1927

Whipple, Guy M., *Manual of Mental and Physical Tests* (2 vols.), Warwick & York, Baltimore, 1914

Wildenskov, H. O., "Porteus Labyrintskala," Denmark, 1926

CHAPTER VII

Measures of Social Capacity and Personality

In the ordinary clinical case the extent of the testing is necessarily restricted by the amount of time available. In many instances the examination must be completed in a single interview. It is unwise to hold a child more than two hours, at the most, at the clinic. A considerable part of this time must be spent in obtaining the details of the personal history, the statement of the problem or complaint, and the child's own story. Consequently, the mental examination must be limited to just such tests as will be sufficient to allow the clinician a measure of general mental ability and some insight into the child's way of dealing with a practical task that is new in his experience. It is believed that the tests already described will, for the amount of time expended, yield the best diagnostic results. Any time that is left, if the examination should be limited to a single clinic visit, will be best spent in obtaining a measure of social intelligence.

Doll's Social Maturity Scale. This question may be approached in one of several ways. We may obtain an estimate of what Doll [1] calls the social maturity of the child, based on a scale which reflects the child's degree of social independence of his parents or other relatives. This scale, as will be seen, includes a number of items that deal with everyday abilities, such as dressing him-

[1] Doll, Edgar A., *Manual of Directions for the Vineland Social Maturity Scale,* Training School, Vineland, N. J., 1935.

self, feeding himself, walking up and down stairs unaided, using the telephone, being entrusted with money, finding his way about his home town, writing letters, and so on. The first hundred items of the 1935 scale are printed below, with the author's permission.

Vineland Social Maturity Scale

1. Grasps objects within reach
2. Reaches for near-by objects
3. Rolls over
4. Reaches for familiar persons
5. Balances head
6. "Crows"; laughs
7. Pulls self upright
8. Sits unsupported
9. Grasps with thumb and finger
10. Moves about on floor
11. "Talks"; imitates sounds
12. Stands alone
13. Occupies self unattended
14. Drinks from cup or glass assisted
15. Pulls off socks
16. Walks about room unattended
17. Does not drool
18. Demands personal attention
19. Uses names of familiar objects
20. Eats with spoon
21. Follows simple instructions
22. Marks with pencil or crayon (random)
23. Goes about house or yard
24. Communicates in short sentences
25. Transfers objects
26. Drinks from cup or glass unassisted
27. Discriminates edible substances
28. Unwraps candy
29. Overcomes simple obstacles
30. Masticates semisolid food
31. Asks to go to toilet
32. Gives up baby carriage
33. Plays with other children
34. Gets drink unassisted
35. Fetches or carries familiar objects
36. Cuts with scissors
37. Removes coat or dress
38. Avoids simple hazards

39. Walks upstairs unassisted
40. Initiates own play activities
41. Eats with fork
42. "Performs" for others
43. Dries own hands
44. Puts on coat or dress unassisted
45. Relates experiences
46. Plays co-operatively at kindergarten level
47. Walks downstairs one step to tread
48. Helps at little household tasks
49. Washes hands unaided
50. Buttons coat or dress
51. Cares for self at toilet
52. Goes about neighborhood unattended
53. Washes face unassisted
54. Prints simple words
55. Plays simple table games
56. Dresses self except tying
57. Uses table knife for spreading
58. Uses pencil or crayon for drawing
59. Uses skates, sled, wagon
60. Goes to school unattended
61. Bathes self assisted
62. Uses pencil for writing
63. Uses table knife for cutting
64. Goes to bed unassisted
65. Tells time to quarter hour
66. Plays competitive exercise games
67. Combs or brushes hair
68. Disavows literal Santa Claus
69. Is trusted with money
70. Cares for self at table
71. Does routine household tasks
72. Bathes self unaided
73. Participates in pre-adolescent play
74. Writes occasional short letters
75. Uses tools or utensils
76. Carries out written instructions
77. Makes telephone calls
78. Does small remunerative work
79. Goes about home town freely
80. Makes minor purchases for himself
81. Exercises complete care of dress
82. Answers ads; purchases by mail
83. Does simple creative work
84. Employs sixth-grade literacy
85. Plays difficult games

86. Engages in adolescent group activities
87. Buys own clothing accessories
88. Is left to care for self or others
89. Maintains several correspondents
90. Goes to near-by places alone
91. Goes out unsupervised in daytime
92. Performs responsible routine chores
93. Employs eighth-grade arithmetic
94. Has own spending money
95. Buys all own clothing
96. Goes to distant points alone
97. Goes out at night unrestricted
98. Looks after own health
99. Has a job or continues schooling
100. Has complete control of own money

Limitations of the Scale. One objection that immediately occurs when consideration is first given to the scale is that certain environments are decidedly limiting and that in many cases we are getting a measure not of the individual's actual abilities but of the parents' or guardians' willingness to allow freedom of action. However, this objection is partially met by Doll's statement that "the fundamental purpose of the scale is to measure the extent to which the person progressively dominates his environment and creates, demands, or justifies his own freedom of action as age increases." At the same time, Doll realizes that circumstances may affect "maturity," as he calls it, and so he adopts a rather ingenious system of allowing what he calls +N.O. (no opportunity) scores to items that come within the continuous range of successes (two or more successive credits on items in the scale).

The chief limitation of the use of the scale for the purpose of clinical diagnosis is that it applies to only one

aspect of social maturity. As its author says, "The central purpose of each item of the scale is to represent some particular aspect of the ability to look after one's practical needs." The emphasis is therefore on self-help and self-direction, rather than on social maturity in general. However, this limitation is rather to the scale's credit. Obviously, it would be far too ambitious a project to attempt to measure with one scale the individual's ability to acquire a repertoire of activities essential to him as a mobile, self-supporting, self-managing, co-operating unit in a social world. It is actually in the direction of measuring ability for self-help that the scale is most successful. Socialization, or what Doll refers to as social participation, is actually measured in only 10 items in the first 100 points in the scale, and 6 of these refer to play situations. On the other hand, 53 items refer directly to physical activities of a practical kind—very largely in the direction of self-help. Only in the upper years of the scale is social responsibility emphasized.

Purpose of the Scale. Doll attempts to meet this general criticism of the width of reference of the scale by the statement that it does not seek to measure traits. He says:

> Social competence is affected by intelligence, by personality, by emotionality, by conduct, skill, opportunity, training, and experience, and so on. But social competence is not to be measured by any of these traits alone. Social competence is measured rather by the effective social uses to which these traits are put. The ultimate significance of any human trait is its actual capitalization for social purposes.[2]

[2] Doll, Edgar A., *The Measurement of Social Competence*, Reprint of Proceedings of 59th Annual Session of the American Association on Mental Deficiency, 1935.

Apart from the author's unusual description of conduct, training, experience, and so on as "traits," his implication is that "social purposes" are adequately covered by the scale. This view is apparent in another statement:

> We particularly emphasize that the Scale is not a scale of emotional maturity, or of personality, or of conduct, or of occupational success, and so on. As previously stated, the Scale aims to measure the extent to which such influences are reflected in representative aspects of a person's social performance.

Doll considers the "sum total of individual capabilities" to be "reflected in progressive stages of personal independence or freedom from the assistance and supervision of others."

According to this view, *social competence* is synonymous with *social independence,* which seems tantamount to disregarding the important fact that none of us, the child least of all, can be an independent unit but is a socially co-operating being. For the child the ability to comb his hair (scale item 67), to go to bed unassisted (64), to bathe self unaided (72), to make minor purchases (80), and to go out at night unrestricted (97) may be together of much less importance from the standpoint of social competency than his ability to adjust himself satisfactorily to the rules of the home, the school, and the community—in short, to co-operate with others. Considering all the complexities of social adjustment, a scale that does not take into account emotional maturity and personality as operating in social relations is far from being an adequate measure of social competency. Emotional balance, right conduct, and occupational success

are themselves aspects of or factors in social performance, and they can hardly be evaluated by asking if the individual has complete control of his own money or similar questions. It is consistent with Doll's own position to say that it is not what independence the child has achieved but how that independence is used that is important. A child may be highly independent and yet be delinquent and therefore socially incompetent. Similarly, another person may have nearly all the individual abilities in the scale and yet be almost pathologically shy and embarrassed in face-to-face situations. The difficulty would seem to lie in the direction of finding "representative aspects" of social performance in general. Self-help and self-direction are important aspects, but not the only aspects, of social relationships.

Merits of the Scale. After all, there is no need to extend the scale beyond its proper limits as a measure of practical abilities and self-direction. There is a useful place and future for a scale that evaluates these important segments of social competency. The idea of measuring practical ability in stages or steps of performance is not new. There have been several attempts of this kind, among them being an industrial scale for defectives—also issued from Vineland—in which each occupation in the institution was analyzed into various steps, so that the actual operations which the individual could carry on independently could be noted. Doll's scale, of course, has gone much further in its analysis of individual independence in the field of self-help.

However, the chief merit of Doll's effort is not in the selection of items—some of which, such as "Disavows a literal Santa Claus," would seem ill-chosen—but in his attempt to define each ability and thus to make the scale

usable as a quantitative measure. For example, item 78, "Does small remunerative work," is defined as follows:

> Performs occasional or intermittent work on own initiative about house or neighborhood, for which small sums are paid or which merit payment, such as odd jobs, housework, helping in care of children, sewing, selling magazines, carrying newspapers.[3]

The scale is likely to be prejudged unfavorably if only the description of items in the scale is considered, without reference to the manual of directions. For instance, the first reaction of the psychologist to such items as "73. Participates in pre-adolescent play" is that the step as described is entirely too vague, whereas the ability is much more definitely described in the manual.

Relation of the Scale to Tests and Clinical Practice. Quite apart from any criticism of Doll's description, the scale has distinct usefulness in clinical work, merely as a record of practical abilities which are not, as we have seen, adequately evaluated by the Binet scale. With defectives its correlation with mental age is remarkably high (.89 with Binet M.A., .81 with I.Q.'s),[4] indicating clearly that the scale is really a test of ability. Though

[3] Doll, Edgar A., *The Vineland Social Maturity Scale: Revised Condensed Manual of Directions,* April, 1936.

[4] See Edgar A. Doll's article, "The Clinical Significance of Social Maturity," in *Journal of Mental Science,* October, 1935. These correlations, however, differ from those given in another paper published in the *American Journal of Orthopsychiatry* for April, 1935. There the coefficients were respectively .86 and .70. The subjects of the first study were feeble-minded (?) persons "with M.A.'s from 1 to 15 years." Apart from the question as to whether individuals with a Binet mental age of 15 years could be feeble-minded, these high correlations must be interpreted in relation to this very wide spread of mental ages. Efforts by Doll to prove the validity of the scale by comparison with supervisors' ratings were not very successful, as the data revealed considerable disagreement with the criterion. Unless these institution supervisors were experienced in the giving of ratings, this disagreement is not, however, of decisive moment.

this high correlation with the Binet scale is a disadvantage, since a coefficient of this size suggests strongly that we are testing predominantly the same complex of traits, the scale will have a value in cases where the Binet scale, because of age or language disability, is inapplicable. In other cases, where there is marked discrepancy between the social age and the Binet age, the reasons therefor should certainly be investigated. In borderline or doubtful cases of mental diagnosis of feeblemindedness, the verdict of Doll's scale might well be decisive.

Inspection of the upper end of the scale (where there has been little experience in its application, and which Doll himself suggests is only tentative) leads one to the belief that it is least valuable at those levels. For example, item 115, "Shares community responsibility," has this description:

> Participates in general management of large affairs, for example, as member of board of directors of important business, social, educational, institutional, civic organization. Holds major position of public trust.

This is hardly consistent with Doll's disclaimer that the scale is not a test of occupational success, for directorships of the above kind can usually be considered proof of such success. One man known to the author is a retired brewer and is a director on a number of boards, but this is due to the fact that he brewed good beer rather than to his social competency.

In clinical practice, the psychologist may not have the opportunity to obtain the necessary information from parents, and so the scale cannot be used as a whole and made the basis of estimating social age. Nevertheless, it

is still useful as a guide in obtaining the social history of the individual. Considering its nature and the amount of territory it seeks to cover, it is probable that it can never provide more than a rough calibration of practical abilities and social responsibility. However, its roughness constitutes no real disadvantage, provided it gives a reasonably approximate measure of a very important segment of social capacity.

How much actual reliance can be placed on the scale for more exact clinical use will be fully apparent only when it has been applied far more widely than at present. Up to 1936 it had been standardized by application to only 20 persons of each age up to 30 years, or 620 cases in all. It will need a tremendous amount of further experimental work, especially in respect to groups of different social status and racial background, before its actual value can be determined. As it stands, it is a very promising instrument for supplementary use in mental diagnosis.

Personal Relations: The Social Ratings Scale. The question now arises how best to approach the estimation of other aspects of social intelligence not adequately covered by the "maturity" scale. We need to know how well the child can adjust himself not only to practical everyday tasks but also to people. This is in large part a matter of his social disposition, which should be taken into account.

This can be done, in large part, by using as the basis of inquiry the characteristics of the Social Ratings Scale referred to in Chapter VI. This scale represented Porteus's attempt in 1920 [5] to take some account in mental

[5] Porteus, S. D., *A Study of the Personality of Defectives with a Social Ratings Scale,* Training School, Vineland, N. J., No. 23, 1920.

diagnosis of the social defects that are characteristic of the mentally subnormal. It was therefore a scale of social insufficiency rather than of social efficiency, and by considering only negative qualities it had an advantage over other rating scales. Obviously, it is much easier to rate individuals with regard to disobedience than obedience, and on lack of planning capacity than its possession. Mistakes are much more easily observed than ordinary successes. In addition, limiting the observation to the lower end of the distribution of the traits in question diminished "halo" effects considerably.

The traits were determined by obtaining detailed descriptions of the social behavior of 125 defectives and then selecting and combining those characteristics most frequently mentioned. The cases were then rated on a five-point scale as to the degree of possession of the selected traits, and these scores were correlated with a general estimate of social sufficiency given on the same cases.

Seven traits having the highest correlations with the general social estimates were selected for inclusion in the final scale. These seven traits were lack of planning capacity, impulsiveness, irresolution, suggestibility, obtrusiveness, excitability, and instability of moods. The application of this scale consisted in having each individual rated on a five-point scale as to his possession of these traits, the scores being weighted according to the degree to which each trait correlated with estimated social sufficiency. The Social Ratings Scale was found to correlate with various mental tests, as shown in Table XI.

The matter was investigated also by Dr. Marjorie Babcock, who used various chronological and industrial groups of males throughout the Vineland institution.

TABLE XI

SOCIAL RATINGS SCALE CORRELATIONS

	Boys ($n = 38$) *r*	*Girls* ($n = 44$) *r*
Social Ratings and Binet	.60	.69
Social Ratings and Porteus Maze	.60	.75
Social Ratings and Binet-Maze Average	.73	.79
Social Ratings and Form Board	.59	.68
Social Ratings and General Social Estimates	.88	.89

NOTE. For correlations between the Social Ratings Scale and other tests, see Chapter VIII.

Table XII gives the correlation of social ratings with intelligence quotients and serves also to illustrate the great spread in the correlations and the consequent importance of sampling.

Though there may be statistical objections against averaging correlation coefficients, it is worth while to

TABLE XII

VALIDITY OF TESTS AS MEASURES OF SOCIAL SUFFICIENCY [6]

Group	*n*	*Binet r*	*Maze r*
Males, 14-30 years, best industrial workers	30	.32	.70
Boys, 10-14 years, attending school	42	.80	.81
Boys, 15-20 years, part-time school and part-time industry	32	.62	.60
Males, 20-30 years, high grade mentality and good workers	33	.46	.72
Males, over 30 years, lower grades, long-term training	30	.85	.78
Males, over 14 years	100	.60	.67

[6] The material quoted in this table is from *Studies in Mental Deviations* by S. D. Porteus, pp. 148-157.

state that the average Binet *r* with social ratings was .61, and the average Maze *r* was .71.

Validity Measured By Extra-Institution Success. The Social Ratings Scale was arranged for application in an institution for defectives where the children could be rated by supervisors and teachers. Its main purpose was to serve as a social criterion in the validation of tests used for the diagnosis of feeble-mindedness, which, as shown in a later chapter, depends in part upon social sufficiency. Obviously, estimates of social fitness given in an institution are not so valid as records of actual success in community life. Fortunately, the scale could be tested by correlation with such records, obtained by girls paroled from the Rome State School, New York. Thirty girls on parole were rated according to their community adjustment and were also rated on the Social Ratings Scale. The coefficient was .76, which rose to .86 when three girls considered psychopathic were eliminated.

Another group of 30 colony girls were rated by the parole supervisor as to their success in colony adjustment, and by the matron of the colony by the Social Ratings Scale. The correlation was .78. The correlation coefficients for the Binet and observed success outside the institution were only .32 and .45, respectively, for the two groups.[7]

In the case of children brought to the clinic for ordinary examination, it is evident that the Social Ratings Scale cannot be properly applied; but its traits can be made the basis of questioning the parent, and in this way a valuable estimate of the child's social characteristics can be obtained.

[7] Porteus, S. D., "Personality in Relation to Social Maladjustment," *Training School Bulletin,* October-November, 1921.

Social Characteristics. *Planning* and *initiative* are closely connected. Hence it is worth while to ask how the child displays these in the play situation. If alone, does he plan his own plays, adapting material to new or individual uses, or is he dependent upon others to arrange or supervise his recreation? When he plays with others, does he exert leadership or attempt to dominate the rest with any success?

Suggestibility can be judged inversely by the strength of the child's tendency to follow his bent and resist efforts to divert him from his purpose. The examiner in the interview has many opportunities to test suggestibility. He notes, for example, how the child responds to praise or encouragement and whether he can be "jollied" along or easily persuaded out of an attitude he has taken up. A certain amount of personal reticence, of "interview-resistance," provided it is not mere obstinacy or balkiness, can be interpreted as evidence of independence of judgment and regarded as a rather healthy sign. The individual who betrays readiness to unlock all the doors of his most intimate experience, except under the stress of considerable persuasion, is probably not in a very normal state. Psychologists should remember that they themselves would probably be quite averse to exhibiting their inner selves to the eye of the analyst.

It is always worth while in examining a child to attempt to discover his attitude towards his siblings. Many young children are extremely imitative and model their behavior quite closely on that of some favorite brother or sister. They may show considerable suggestibility in response to some people, but none to others.

Questioning both the child and his parents will reveal any marked tendency towards *impulsiveness*. Sudden

rows and quarrels with playmates, a poor balance between desire and restraint in family relations, and hasty acts followed by quick repentance betray the impulsive disposition. The question "Do you sometimes do things that you are afterwards sorry for?" may be directly asked; and if it is answered in the affirmative, further specific inquiries as to actual happenings will give evidence on this important characteristic. A little questioning will also reveal sudden changes in dominant interests. Activities of various kinds may be taken up with enthusiasm as hobbies, and may be relinquished just as suddenly. Quick changes in the direction of interest and endeavor also mark the impulsive person.

Irresolution, mental confusion, a hesitant, timorous, or indecisive habit of thought and action can often be observed while the child is at work on the tests. But the possession of a vacillating turn of mind is usually obvious enough to parents and associates. Inability to make up his mind as to the choice of toys or other purchases and various fluctuations of interest in plans are very characteristic of the irresolute child. Nervousness, excitability, being haunted by unwarranted fears or phobias, inability to show well before others make up what is often described by parents as a high-strung or nervous temperament. Physical restlessness or pressure of activity and various tics or habits, such as nail-biting, excessive frowning, eye-blinking, should all be carefully noted as symptoms of nervous tension.

A silly *obtrusiveness,* or tendency towards "showing off," a habit of talking or laughing too loudly, an inability to fit the demeanor to the occasion will be speedily apparent to a person's associates and is sometimes, though less often, exhibited during the course of the examination. It

is a rather strange fact that the judgment of the group is frequently nearer the mark than that of trained observers. A man about whose mental condition there was considerable difference of opinion on the part of experts was said to be "queer" by a group of his fellow prisoners, and this was confirmed by longer observation. There must have been certain minimal signs in the man's behavior that, when added up, made the judgment possible, but these were not apparent to the more expert scrutiny.

In the case of children, the examiner must beware of accepting without question the verdict of adults. It must be remembered that to the sober-minded oldster any youthful light-mindedness is liable to be construed as flighty and frivolous behavior. The members of the child's own social group are less likely to be wrong about him.

The two remaining traits of the Social Ratings Scale are *excitability* and *instability* of moods. Any tendency towards these characteristic modes of behavior can be discovered by more or less direct questioning of the parent and sometimes by observation of the subject during the examination.

The child who is moved too easily to laughter or tears, who shows nervousness when in contact with other children, who gives way to sudden outbursts of anger or is very noisy and unrestrained in play, or who suffers from sleeplessness after any unusual experience can be classified as excitable.

Instability of moods is shown by too rapid fluctuations in social attitudes. These children get stubborn or negativistic without sufficient cause, or they suddenly become shy and unresponsive or show other unpredictable changes of mood. Their emotional reactions are undependable.

Range of Local Information Scale. A third way of judging social maturity is to test the person's fund of what might be called everyday facts. By this is meant his range of local information pertaining to his own community. It should be recognized that knowledge is gained not only through reading and by direct instruction but also through ordinary social contacts. This body of facts is acquired in moving about in one's town or countryside, in listening to and taking part in conversations, in making shopping excursions—in short, it comprises the things that he who runs, if he is sufficiently alert, may read. This information is gained by a process of social osmosis to which we are all in equal measure exposed. Some, however, are more absorbent than others. To test this socially acquired common knowledge, there has been devised and used a Range of Local Information Test, which has been found to be one of the most useful supplementary methods of examination, especially when the results of the mental testing are, for the purposes of diagnosis, inconclusive.

Ten questions with eight spaces for answers were mimeographed on a sheet of paper, with space for scoring. The suggested list can be modified in any direction that the examiner wishes. The test can easily be given as a group test, and a local standardization can be arrived at. The scoring is based on a simple system. Under each question 1 point is allotted for each of the first six items correctly supplied. The seventh and eighth items in each question are weighted in the scoring by allotting 2 points for each, thus bringing the total possible score for each question to 10. The only exceptions to this rule are for question 10, which contains 10 items, so that 1 point is allotted for each article correctly priced, and question

6, for which only 5 items are required, 2 points being allotted for each item. Since the total possible score is 100, the sum of the points earned is a percentage of the possible score. In the actual form used there are eight numbered spaces for answers under each question except 6 and 10, which call for 5 and 10 items, respectively. Since there is no room for additional answers, the subject will usually give not more than the indicated number.

Items of Scale

1. Name all the large towns or cities you can think of in this state.

2. Name all the kinds of automobiles that you know of besides Fords.

3. Name all the kinds of fruits (or crops) that are grown in this state.

4. Name all the games that adults play in this state.

5. Name all the jobs or occupations that you can think of besides teachers.

6. Give the names of five states that are close to this state. (2 points for each correct.)

7. Give the names of all the shade trees (not fruit trees) that grow in this state.

8. Name eight things which people use to travel by from place to place besides bicycles.

9. Name all the things for which buildings are used besides schools.

10. How much do we pay for:

(1) A daily paper
(2) A small loaf of bread
(3) A quart of milk
(4) A pound of butter
(5) A pound of coffee
(6) A pair of shoes
(7) Postage to another state
(8) Air-mail postage
(9) Railway or bus fare to —— (some point not in the immediate neighborhood, travel to which is frequent)
(10) A new Ford car

Some points with regard to the scoring of this scale should be noted. In question 10, items (1), (2), (3), (4), (5), and (9) must be very approximately correct; items (7) and (8) must be exactly known; while item (10) should be given within $100 of the correct price.

Questions 2, 5, 8, and 9 have been sometimes misinterpreted. For example, sedans, coupés, touring cars, and so on are sometimes named in question 2, instead of makers, as kinds of cars. Therefore direction has been given to the child's thought by mentioning Fords as an exception; so also in questions 5, 8, and 9.[8]

The test as outlined here differs somewhat from the form applied in Hawaii, though as far as possible the substitutions made have been of equivalent difficulty. In the original scale, question 1 referred to the inhabited islands in the Territory, question 2 to the nationalities residing there, question 6 to the countries or states from which ships or airplanes come to Hawaii.

Obtained Scores and Age Standardization. For purposes of comparison, Table XIII gives the scores ob-

TABLE XIII

AGE SCORES IN RANGE OF INFORMATION TEST

Number of Cases	*Age in Years*	*Average Percentage Score*
203	10	51
350	11	53
258	12	58
413	13	67
533	14	74
968	15	77
789	16	81
426	17	83
91	18	85

[8] This change was made at the suggestion of Dr. Colin J. Herrick.

tained by children in Hawaii. Ages 13 and 14 years in this table represent the points at which cases above the elementary school grades are included, which probably accounts for the marked increase in scores at these levels.

The probable performance for mainland cases would be about a year above these averages. Hence the following scoring is suggested, though results should be checked against actual standardization data, which can easily be gathered for each locality:

38%-41%	8 years	69%-74%	14 years
42%-46%	9 years	75%-78%	15 years
47%-51%	10 years	79%-82%	16 years
52%-56%	11 years	83%-85%	17 years
57%-61%	12 years	Above 85%	Adult
62%-68%	13 years		

When given individually, the scale may be marked by the examiner; it takes no more than 15 minutes to apply. If the time is available, it cannot be better spent than in obtaining a measure of the knowledge acquired through the social contacts that every child experiences. A score three years or more below the actual age level may be considered significant.

Value of Scale in Mental Diagnosis. In cases of doubtful diagnosis the scale is quite valuable. An example of its usefulness was the case of a girl who by both Binet and Maze was well below the normal level of performance. Her range of local information was, however, equal to a 14-year score, so that she compared favorably with children in their first year of high school, and this in spite of the fact that she was residing in an out-of-the-way rural district on one of the outer islands of the Territory. If the scale had not been applied, the examiner

would without hesitation have decided she was feeble-minded; but her range of information was certainly not that of a mental defective. She had left school very early and had very poor scholastic attainments. Her range of practical abilities was quite satisfactory. She was giving her illegitimate baby good care by following the district nurse's directions very faithfully. The proper time for feeding the infant was estimated by the position of the sun, and the interesting thing was that the estimate was correct. When asked the time, she gave it as eleven o'clock and was correct within ten minutes. She also pointed correctly to the position in which the sun would be at four o'clock. Her knowledge of simple household work, cooking, and sewing was also on a par with this range of information. The girl was unschooled and delinquent, but certainly not defective.

Common Knowledge. If the time is too short to permit of the application of any other measures of social capacity, a selection from the following questions on everyday information may be given. They lack standardization, of course, but they may nevertheless provide a useful indication of the person's mental condition.

Questions on Everyday Knowledge

1. What is the time? (Show watch)
2. Show me how long a foot is. (Correct within 3 inches)
3. Who is the mayor of this city (or governor of this state)?
4. (*a*) How long do you cook eggs? (Girls)
   (*b*) How many men are there on a baseball team? (Boys)
5. How many days are there in a year?
6. Of what animal is beef the meat?

7. Tell me something that costs 10 cents.
8. Tell me something that costs 25 cents.
9. Tell me something that costs a dollar.
10. What do we call the American flag?

Each examiner may have his own methods of estimating, independently of the mental testing, his subject's orientation towards and abilities in practical everyday affairs. The important point is that he should not be content with allowing an individual to walk into the testing room, answer the test questions, and walk out, without further communication. The psychoclinician's interpretation of the test results will often be much sounder if he takes time for a little conversation with regard to hobbies, games, outings, responsibilities, and so on. This informal approach often yields viewpoints that are somewhat obscured during the actual testing.

Personality **Defined.** The various measures of social capacity which have been described, and more especially the Social Ratings Scale, are closely concerned with characteristics that are usually considered as belonging with the personality of the individual. Psychologists have advanced many definitions of this important but vaguely used term, each of which is more or less satisfactory. Allport, for example, uses *personality* as a synonym for "the psychological individuality of a man." He defines it as "an amazingly complex organization comprising his distinctive habits of thought and expression, his attitudes, traits and interests, and his own peculiar philosophy of life." [9] Some of the 50 definitions of *personality* listed by Allport are widely inclusive, as, for example, that suggested by Burgess:

[9] Allport, Gordon W., *Personality: A Psychological Interpretation*, Henry Holt and Company, Inc., New York, 1937, p. 24.

Personality is the integration of all the traits which determine the role and status of the person in society. Personality, therefore, might be called social effectiveness.

Unfortunately, effectiveness may have negative as well as positive social value. The criminal's activities have great social effect, and he would therefore be considered as possessing a strong personality. If, however, effectiveness means efficiency, then the criminal has a very inferior personality. The same objection with regard to failure to distinguish the kind of effect applies to what Allport calls a biosocial definition, which regards personality as "those habits or actions that successfully influence other people." Perhaps the best way to conserve the social reference in the definition and make it unambiguous would be to say that personality is the complex of traits making for social adjustment. This would make social intelligence part of personality.

Shaffer describes personality as follows:

> The personality of an individual may be defined as his persistent tendencies to make certain kinds and qualities of adjustment. . . . Personality does not depend upon one or a few characteristics only, but upon the interaction of practically all of the traits of an individual.[10]

Allport also discusses what are called "omnibus definitions," which refer to a summation of traits. The one by Morton Prince is a good sample: "The sum-total of all the biological innate dispositions, impulses, tendencies, appetites, and instincts of the individual and the acquired dispositions and tendencies." Thus he would include the

[10] Shaffer, Laurence F., *The Psychology of Adjustment*, Houghton Mifflin Company, Boston, 1936, p. 282.

whole behavior of the individual. With too wide a reference, the term loses value.

The author leans heavily towards those definitions which stress the distinctive nature or style of reaction of the individual. Several suggested formulations seem to be very satisfactory, such as that by Woodworth:

> Personality refers not to any particular sort of activity, such as talking, remembering, thinking, or living; but an individual can reveal his personality in the way he does these things.[11]

Of similar purport is Allport's own definition:

> Personality is the dynamic organization within the individual of those psychophysical systems that determine his unique adjustment to his environment.[12]

For Katz and Schanck,[13] personality would include "the individual's characteristic ideational, emotional, and motor reactions and the characteristic organization of these responses."

Intelligence has been referred to in this text as being dependent on the range and the complexity of relevant stimuli, but this interpretation makes no reference to any distinctive manner or way of response. The style of reaction to relevant stimuli marks the personality of the individual. For example, let us set two individuals an identical problem—say the threading of a maze design with a pencil. Each may respond to it adequately, that is,

[11] Woodworth, Robert S., *Psychology,* Henry Holt and Company, Inc., New York, 1929, p. 553.

[12] For a thorough discussion of this and other definitions, see Chapter II of G. W. Allport's book, particularly pp. 48-50.

[13] Katz, Daniel, and Schanck, Richard L., *Social Psychology,* John Wiley & Sons, Inc., New York, 1938, p. 391.

receive the same score, but their styles of response may differ entirely. The first person may be quick and alert, a rapid and effective planner. The other may be cautious and slow, exhibiting a plodding, piecemeal attack, indicating a most prudent style. On the score of intelligence they may be rated equal, but as regards personality, quite different. We may say that the one person tends to be of the optimistic, carefree, outgoing type, while the other may be fearful of failure and somewhat overinhibited as regards overt activities. Thus our definition of personality lends itself readily to clinical purposes, since distinctive manner of response can be illustrated by samples of behavior. The nature of these samples and the way in which they are obtained will be exemplified by a brief consideration of some scales and questionnaires that are available for clinical use.

Factors of Personality. Social psychologists have found the investigation of personality a fruitful field of effort, with the result that the psychoclinician has a wide choice of personality measures at his command. This is due in the first place to the fascination of the subject, and in the second place to the fact that the investigator has such a wealth of material from which to select suitable stimulus situations. He has no need to look for tests that bear particularly on original nature, as there is frank recognition of the fact that in social situations nature and nurture are almost inseparable. Hence he is not concerned, as is the psychologist who attempts to measure intelligence, with searching for test questions that are free from the influence of previous specific training. Moreover, his results are not always expressed in quantitative terms and are not subject to laborious standardization and correlation procedures.

G. W. Allport has suggested a very comprehensive testing of common traits through which a psychograph of an individual's personality can be constructed. He includes facts of bodily symmetry, health, and vitality, so that the clinician can take note of deviations in these directions which may account for feelings of inferiority. Allport lists verbal and mechanical intelligence among common variables, but he objects to the inclusion of social intelligence on the grounds that it cannot be an inherited capacity and is rather to be regarded as a trait developed through opportunity and interest, upon the basis of a native general intelligence.[14]

Those who have followed the previous discussion will anticipate our disagreement with Allport's point of view. Mechanical and verbal intelligence develop also through opportunity and interest, and, it may be added, through necessity. How much mechanical intelligence would an individual show if he were unacquainted with tools, materials, and mechanical devices? As to the claim of a nonhereditary basis of social intelligence, that, too, is open to question. There is evident a tremendous elaboration of the physical means of obtaining social approval and co-operation. Among the physical structures that serve as organs of social display, the speech mechanism is perhaps the most important. Speech is, of course, merely the medium of social communication, and as a cultural development we must learn to use it. Verbal intelligence is concerned with the acquisition of a good vocabulary, but our ability to use speech for effective social ends depends on an ability to deal with people as relevant stimuli. This is largely a matter of endowment,

[14] See Allport, Gordon W., *Personality: A Psychological Interpretation,* p. 407.

dependent in part on such things as personal appearance, play of facial and bodily expressions, and social understanding. It seems to be much more than tact which Allport is inclined to identify as social intelligence. The author's tendency is to expand rather than to restrict the concept, so as to include all the means whereby we seek social co-operation, such as the ability to control temper and aggressiveness, to display unselfishness, patience, sympathy, and the like. Admittedly, social intelligence, as thus defined, overlaps temperamental traits. Temperament, according to Allport, may be defined in terms of the individual's susceptibility to emotional stimulation, including peculiarities of fluctuation and intensity of mood, these being dependent on constitutional factors and therefore subject to heredity. But temperament should be regarded as an important factor or set of factors in social intelligence. It is not, however, the only factor, as social intelligence also includes the ability to reason about people as well as to respond to them emotionally.

Other factors in personality are those which Allport calls *expressive traits,* three of which are ascendance, expansion, and persistence. He points out that ascendance is not rigidly constant but varies with different circumstances. A man may be submissive with one person and ascendant with another. Persistence from the clinical point of view is certainly worth estimating, as it is so directly related to successful adjustment. *Extraversion-introversion* is another useful descriptive category, but the term has been so much discussed that its treatment here is unnecessary. In clinical practice there is seldom time to construct a psychograph of the above-mentioned traits, but the various categories may well serve as the basis of a personality analysis. It is worth while reiter-

ating that such characterizations must be exceedingly flexible, and that fluctuations must be allowed for. It is not sufficient, for example, to mark a person down as persistent unless we specify the particular situations in which he displays the trait. In some circumstances persistence is a virtue; in others, a decided fault. Again, an individual may seem introverted in certain situations and extroverted in others.

The Use of Personality Inventories. All this serves to illustrate the chief difficulty that has been experienced in the use of the various inventories of personality, particularly those that deal with trait complexes, such as neuroticism. Some psychologists use these scales sparingly because of the feeling that a skillfully conducted interview tends to make them unnecessary. They have an aversion towards a clinical procedure which consists of plunking down in front of a subject a long and exhaustive list of a couple of hundred printed questions, some of which are almost sure, if he is a case for the consulting psychologist, to flick him on the raw. The personality questionnaire is essentially an exploratory operation, and to an individual already perplexed and troubled it is likely to be disturbing or painful. To commit oneself in writing—especially in unqualified *yes* and *no* answers—is a course that many people would wish to avoid.

Then, too, the arrangement of the questions is often unfortunate. Apparently with the idea of catching the subject somewhat unawares, the questions are often quite detached from their immediate context and differ radically in reference and relevancy. The Bell Adjustment Inventory, for example, scatters queries anent the health of the subject right through the series, so that a person may just finish answering a question with regard to his

school adjustment in class recitation to be suddenly faced with an inquiry as to whether he is troubled with gas in the stomach or intestines, while the question immediately following deals with family quarrels. Thus the scale itself represents an extremely crude or raw adjustment to its human subjects. It is like a cross-examination by several lawyers at once on a number of embarrassing incidents. A skilled psychologist does not state his questions so baldly, nor does he pose his most critical queries out of relation to a suitable context, without preparing the way for them. It is hard to imagine an experienced psychoclinician suddenly, without leading up to the matter, asking his case, "Are you troubled with the idea that people are watching you in the street?" Nor would he be guilty of propounding such an ambiguous question as, "Do you often feel just miserable?"

As a matter of fact, the personality questionnaire entirely neglects a most important factor in interviewing, that of rapport. The personality inventory is perforce a cold, impersonal thing; as an instrument of research on groups of ordinary people it may be excellent, but as a clinical tool it has decided drawbacks. It may, of course, be used after proper rapport has been established between examiner and subject. *Rapport,* however, does not mean a merely friendly and pleasant relationship but rather a state of confidence with regard to certain critical areas of behavior—those that concern the individual's complaints or problems. Once these have been exposed through the interview, the test may no longer be necessary.

It is a poorly conducted psychological interview which does not have some therapeutic value, but those persons are rare in clinical practice to whom the filling in of a personality inventory represents a relief from nervous or

emotional tension. There are, however, some exceptional people whose habits of reticence are so ingrained that they would rather commit themselves in writing than discuss their problems openly in a face-to-face interview. There are others whose accounts of their troubles are so vague that a truly exploratory procedure is indicated. Some adolescents—and this applies often to delinquents—are so inarticulate concerning their dissatisfactions and unrests that the questionnaire fills a useful purpose in focusing attention on certain phases of their experience. In spite of many psychologists' predilection for the better controlled interview, the personality test is still used in certain cases as Rogers uses it, as a means of uncovering "new and unsuspected areas of tension and maladjustment in the youngster."

Personality Tests for Children. Rogers' own "Test of Personality Adjustment" [15] is an attempt to measure the child's adjustment to his own abilities, to his friends, and to his family. In relation to the discussion above, note that the questions cover the same topics as the psychological interview. The range of ages to which the test applies is from 9 to 13 years. An effort is made to overcome a common objection to self-rating scales by disguising the questions so that the child will not pick out the best answer, but this difficulty still exists. A child may easily overrate himself in answering such questions as: "Bob is the brightest boy in school. Am I just like him? Do I wish to be just like him?"

Rogers himself states that the test "falls far short of the standards of reliability and validity set in the older

[15] Rogers, Carl R., *Measuring Personality Adjustment in Children Nine to Thirteen Years of Age,* Teachers College, Columbia University, New York, 1931.

field of psychological measurement." Nevertheless, he believes that it gives valuable hints in the analysis and diagnosis of the problems of maladjusted children. He is careful, however, to state that the test is merely an *aid* to diagnosis and not a *means* of diagnosis.

Our own experience with the test indicates rather low validity as applied to a group. Dr. Marjorie Babcock, while assistant director of the Hawaiian clinic, applied the test to groups of delinquent and nondelinquent boys in New York and Rochester without establishing any statistically significant differences in their scores in any division of the test. A combination of high scores in the subdivisions of the test was, however, more frequently observed in the case of delinquents. Notwithstanding the fact that many delinquents were able to gain satisfactory scores, those whose responses were inferior certainly deserved special attention at the hands of the psychologist.

In the Sweet Personal Attitudes Test, which allows of ratings under seven categories, including self-criticism, social insight, and deviation from the group idea of right, the scores of the delinquent and nondelinquent groups also were compared. Unfortunately, the differences were neither large enough nor consistent enough to warrant the use of the test in discovering delinquent personalities.

Among other scales suited for children should be mentioned the Maller character sketches, which uncover symptoms of emotional instability; Furfey's scale of developmental age; and the Pintner School Opinion Test, which reflects the attitude towards the teacher, friends, and studies. Dr. Babcock [16] was able to demonstrate distinct differences between delinquents and nondelinquents

[16] Babcock, Marjorie E., *A Comparison of Delinquent and Nondelinquent Boys by Objective Measures of Personality,* 1932.

in an adapted form of the last-named test. Reference may also be made to her monograph on the results of applying the Stephenson Perseveration Tests, in which the subject is required to attempt to reverse habits by writing letters backwards, and so on. Dr. Babcock's findings were that "there is a tendency for delinquents to be slower in response in a new activity after change from an established habit, and they become more disturbed, making more errors than nondelinquents, by this change."

Personality Inventories for Older Subjects. With regard to older subjects, the Bernreuter Inventory, the Thurstone Personality Schedule, and the Woodworth Psychoneurotic Inventory seem to be the most popular in clinical use.

The Bernreuter Inventory uses material included in four other scales—the Thurstone, Bernreuter's own Self-Sufficiency, Laird's Introversion-Extraversion, and the Allport Ascendance-Submission scales. By means of a differential scoring, Bernreuter attempted to rate individuals as to neurotic tendencies, self-sufficiency, introversion, and dominance. Experience with this test has indicated that its scoring was, in many items, most difficult to justify on any logical or psychological grounds, and that the test, though convenient to use, covered too great an area and was insufficiently validated. Flanagan's analysis of the scale showed that it was affected mainly by two independent factors, which he called self-confidence and sociability.[17] It is noteworthy that Speer, on the basis of his study of problem and nonproblem children, found that Bernreuter's scale was of no value in prognos-

[17] See Robert G. Bernreuter's *The Personality Inventory*, and John C. Flanagan's *Factor Analysis in the Study of Personality*, published by Stanford University Press, California, in 1931 and 1935, respectively.

ticating the personality problems of children.[18] The more ground as regards separate personality traits that a test like the Bernreuter Inventory attempts to cover, the greater the number of irrelevant questions.

The method used by Thurstone in arranging and scoring his scale was to compare the responses of the 50 individuals making the most unsatisfactory score with the 50 making the best scores, the total number in the group being 694. This was essentially the method used by Porteus in arranging the Nurses' Social Attitudes Scale. (See Chapter XX.)

The Woodworth Psychoneurotic Inventory has the advantage of attempting to measure only one phase of behavior. It has been analyzed by Symonds, who finds its chief reference is to physical symptoms, adjustment to environment, fears and worries, unsocial moods and conduct, and dreams and fantasies, together with a variety of less emphasized mental symptoms and reactions.

Supplemented by an interview, such scales as these are most useful to the less experienced examiner in assuring him that all the possible varieties of neurotic behavior have been checked.

References for Chapter VII

Allport, Floyd H., *Social Psychology,* Houghton Mifflin Company, Boston, 1924

Allport, Gordon W., *Personality: A Psychological Interpretation,* Henry Holt and Company, Inc., New York, 1937

Babcock, Marjorie E., *A Comparison of Delinquent and Non-delinquent Boys by Objective Measures of Personality,* Teachers College, Columbia University, New York, 1932

[18] Speer, G. S., "The Use of the Bernreuter Personality Inventory as an Aid in the Prediction of Behavior," *Journal of Juvenile Research Quarterly,* Vol. 20, 1936, pp. 65-69.

Doll, Edgar A., "A Practical Method for the Measurement of Social Competence," *Journal of Exceptional Children,* October, November, December, 1937

——, *The Vineland Social Maturity Scale: Revised Condensed Manual of Directions,* Training School, Vineland, N. J., April, 1936

Franz, Shepherd Ivory, and Gordon, Kate, *Psychology,* McGraw-Hill Book Company, Inc., New York, 1933

Furfey, Paul H., *Developmental Age Test,* The Stoelting Company, Chicago, 1930

Hartshorne, Hugh, and May, Mark A., *Studies in Deceit* (Vol. I of *Studies in the Nature of Character*), The Macmillan Company, New York, 1928

May, M. A., and Hartshorne, H., "Objective Methods of Measuring Character," *Pedagogical Seminary and Journal of Genetic Psychology,* Vol. 32, 1925

Murphy, Gardner, and Murphy, Lois B., *Experimental Social Psychology,* Harper & Brothers, New York, 1931

Murphy, Gardner; Murphy, L. B.; and Newcomb, T. M., *Experimental Social Psychology,* Harper & Brothers, New York, 1937

Plant, James S., *Personality and the Cultural Pattern,* Commonwealth Fund, New York, 1937

Porteus, S. D., *Studies in Mental Deviations,* Training School, Vineland, N. J., No. 24, October, 1922

Roback, A. A., *A Bibliography of Character and Personality,* Sci-Art Publishers, Cambridge, Mass., 1927

Rogers, Carl R., *The Clinical Treatment of the Problem Child,* Houghton Mifflin Company, Boston, 1939

Shaffer, Laurence F., *The Psychology of Adjustment,* Houghton Mifflin Company, Boston, 1936

Sweet, Lennig, *The Measurement of Personal Attitudes in Younger Boys,* Association Press, New York, 1929

Symonds, P. M., *Diagnosing Personality and Conduct,* D. Appleton-Century Company, Inc., New York, 1931

CHAPTER VIII

Special Supplementary Tests

Choice of Tests for Clinical Use. Each clinic has its own regular schedule of tests that it relies upon for all ordinary purposes. It can be assumed with certainty that some form of the Binet scale, probably either the Terman-Merrill or the Kuhlmann, will have an invariable place in the list unless for some reason the scale is inapplicable, as in the case of the deaf or blind or foreign-born children with very inadequate or no English at their command. But very few clinics now limit their examinations to the application of a verbal scale, and performance tests are almost invariably included in any mental examination.

The choice of supplementary tests will depend largely on the amount of time available for testing, but even more upon the experience of the examiner. One person skilled in giving and interpreting a somewhat less valuable test will probably get better clinical results than will an inexperienced examiner with a better test. Hence the matter of choice of tests is probably not vital.

The author's preference for a supplementary test is the Maze, as he is naturally biased in favor of a scale with which he has had unusually long and intimate experience, involving its application to many thousands of individuals that included normals, defectives, psychopathics, deaf and dumb, epileptics, delinquents, and criminals, as well as groups of some exceedingly primitive peoples.

He has also had access to thousands of test results gathered by other psychologists. But one psychoclinician's preference for the Maze is no reason why others should place reliance on its results, although two surveys of clinics in the United States have placed it second in point of usage to the Binet scale. This fact also may be discounted somewhat on account of the inertia of psychoclinicians, who are often unwilling to displace from their schedule tests with which they have become familiar. Because of this, the road to widespread clinical usage in the case of a new test is a long one.

As regards the Maze, experience has shown that it cannot be substituted for the Binet scale; there are oftentimes too wide divergences between their results. It is obvious that we need a performance scale which, because of its wide variety of tests and their relation to abstract thought, will correlate very highly with the Binet scale and which can be used when the Binet for any reason is inapplicable. In addition to such a test, it would be well to incorporate in the test battery another test scored on speed of reaction. This chapter presents, therefore, an account of a new scale which in experience has proved satisfactory as a substitute for the Binet scale and which might also be applied when the standard test results are indecisive as regards the final diagnosis. There is also described an easily applied test of speed of reaction in a task needing little or no special experience, concluding with a brief review of some other available scales and tests.

As regards a satisfactory substitute for the Binet scale, the less such a scale depends on language the better. There are some otherwise excellent performance tests that require fairly long and sometimes rather involved

explanations before the subject understands the test conditions and what is expected of him. Obviously, these tests cannot be supplied to non-English-speaking subjects. It is preferable to use a test that can be illustrated by pantomime—and as little as possible of that. The ideal performance test should be entirely self-explanatory. Another important consideration is the time that it takes to apply and score the test. Ease of handling and economy of time are essential in tests that are supplementary to the ordinary program.

The Leiter Performance Scale. These conditions are met very well by a scale that was largely developed at the Hawaiian clinic by Dr. R. G. Leiter.[1] A shortened form of this test, restandardized on the basis of clinical experience, is here described. It is absolutely devoid of verbal instructions, as each test is self-explanatory to anyone with normal comprehension. It takes just a short time to apply and is easily scored. Leiter found correlations of .79 ($n = 76$) with the Stanford-Binet, .71 ($n = 420$) with the Porteus Maze, .46 ($n = 204$) with the Porteus Form and Assembling, and .38 ($n = 226$) with the Healy Picture Completion Test II. The fact that it correlated so well with the Binet indicates that it may be used as a substitute for the latter. Leiter's results with his test have recently been confirmed through its use in the clinic of the University of Hawaii. Segregating a group of 50 whites and then taking two groups of 100 consecutive cases of other racial extraction from the files gave the results shown in Table XIV. In spite of the fact that the Leiter test is entirely free from language, it seems to favor the whites more than does the Binet, and

[1] Leiter, R. G., *The Leiter International Performance Scale,* the University of Hawaii Research Publications, No. 13.

TABLE XIV

APPLICATION OF THE LEITER, BINET, AND MAZE TESTS TO CLINIC CASES

Group	*Tests*	*n*	*Average* I.Q.	*Standard Deviation*	*Correlation with Leiter*	P.E. *r*
Whites	Leiter	50	102.2	24.10		
	Binet	50	94.20	20.45	.80	.034
	Maze	46	88.85	25.03	.41	.084
Other Races Group I	Leiter	100	77.40	15.60		
	Binet	100	73.25	12.80	.73	.031
	Maze	100	74.65	23.50	.54	.048
Other Races Group II	Leiter	100	83.25	16.85		
	Binet	100	73.40	13.75	.68	.036
	Maze	100	79.90	22.05	.39	.058

much more than the Maze test. The correlations with the Binet are consistently high.

Standardization. Leiter standardized his scale by applying it to 1430 Chinese and Japanese children, aged from 6 to 16 years of age. The results are given in Table XV, page 202.

From this table it is seen that the scale appears to be standardized well and that the standard deviations are not much above that for the Binet scale, which ranges about 14 months of mental age as against a little over 15 months for the Leiter scale.

Leiter also applied the Woodrow formula for discriminative value of tests—a value which indicates how the tests discriminate children of adjacent age levels. This value is found by subtracting the average score of children of one age from the average score of the children of the next higher age group and dividing the result by half the sum of the standard deviations. The use of this

TABLE XV

STANDARDIZATION OF LEITER SCALE

Number of Children	*Average Chronological Age*	*Average Mental Age*	*Difference in Months*	*Standard Deviation in Months of Mental Age*
119	6 yr. 6 mo.	6 yr. 5 mo.	−1	14.2
132	7 yr. 7 mo.	7 yr. 4 mo.	−3	15.3
137	8 yr. 5 mo.	8 yr. 7 mo.	+2	13.4
144	9 yr. 6 mo.	9 yr. 7 mo.	+1	15.1
134	10 yr. 5 mo.	10 yr. 7 mo.	+2	16.0
123	11 yr. 5 mo.	11 yr. 6 mo.	+1	14.3
138	12 yr. 5 mo.	12 yr. 6 mo.	+1	16.1
132	13 yr. 4 mo.	13 yr. 8 mo.	+4	15.8
131	14 yr. 6 mo.	14 yr. 6 mo.	0	15.4
142	15 yr. 6 mo.	15 yr. 2 mo.	−4	16.1
98	16 yr. 6 mo.	16 yr. 6 mo.	0	17.9

formula as a criterion of validity is, as shown later, open to serious criticism. However, a high discrimination value is *one* of the criteria of a good test, and it is noteworthy that the Leiter scale has a higher value than any of the eight tests included by Grace Arthur [2] in her scale. Racial differences also were brought to light, the average Leiter test quotient being 96.5 for the Chinese group and 101.25 for the Japanese. This result is similar to those obtained in a number of other comparisons between the two racial groups when performance tests were used. These figures for Japanese-Chinese differences, however, are not the same as those which were given in an abstract of a thesis by Leiter, published in 1938. According to a statement there, the average test quotient of the Japanese group was 102.4 and of the Chinese, 101.9. A short scale was employed in Hawaii, but as the correlation between this

[2] Arthur, Grace, *A Point Scale of Performance Tests.*

and the full scale was very high, the discrepancy between the two sets of results is hard to understand. The explanation may lie in the fact that the tests dependent most on abstract intelligence were excluded from the short scale.

Test Description. Because the scale is comparatively new and is promising for clinical use, a brief description is given here. Its distinctive feature is the use of a matching technique by means of frames in which notches are cut, so that one-inch cubes will just fit the holes. The test material appears on one side of each of the cubes, which are to be placed in correct relation to a similar series printed on a card that fits onto the frame just above the notches. In this way forms may be matched, or analogies worked out, or designs completed, half of which appears on the card and the lower half on the cubes. As an example, one matching test has a series of five photographs of South African female natives, ranging from infancy to old age, printed on the card. On the five cubes appear similar photographs of males. The only logical thing to do with the material is to match the two sets according to age gradation. Another test has to do with the time sequence of acts performed by a schoolboy in the morning. On the card opposite the first and last notches are clocks showing six and eight o'clock, while the pictures indicate the boy washing his face, dressing, having his breakfast, and on his way to school. Obviously, the pictures should be placed in proper order. A third test is an adaptation of the concealed cubes test, the card showing the frames and the blocks the appropriate numbers. One of the highest tests is an adaptation of the Abelson Test, which is used also in the Army Beta Test. In all these tests no spoken directions are necessary, of course, and practically

no pantomime instructions. In some of the tests it is allowable for the examiner to place the first block in position. There are few, if any, original tests in the series, but the use of the notched frames is a unique and valuable feature.

The scale first of all involves the ability to see logical relations. In other words, the subject must show insight in determining, first, the nature of the problem and, secondly, how to bring the two sets of data into proper relation. In this respect it may be considered to involve, to some extent, generalizing ability. This ability is tested with a variety of material, and naturally the more tests there are and the more various, the more adequate the scale. Leiter has since brought out a fuller scale with four tests at each age level. The short form, however, correlates very well with the full scale, and the fact that it takes only half as long to give is a decided advantage, as the time that can be devoted to a single case is, in ordinary practice, very limited.

Devisers of tests, if they wish to see their tests incorporated into general use, must take into account several desiderata. In addition to being valid and reliable, the tests should be comparatively inexpensive, rather easy to handle, and economical of time and effort on the part of the examiner. Of course, if the test is markedly superior to all others of its kind, psychologists will be driven eventually to use it irrespective of time and expense. This claim can hardly be made for the Leiter test, though in its short form it satisfies most of the abovementioned criteria.

Incidentally, the brief scale, though not adapted to the most primitive peoples, such as the Bushmen of South Africa or the aborigines of Australia, is applicable

to tribes of the general mental level of the Bantu. Porteus used it with both "raw" and mission natives in South Africa, with interesting results. The general level of performance of adolescents of these tribes ranged between 9 and 11 years—considerably below the level of Japanese and Chinese youths in Hawaii. It would be interesting to apply this test to other racial groups.

Modified Scoring. Clinical practice indicates that the test is standardized about one year too low, and on the basis of this experience the scale has been rearranged, depressing the year values twelve months and making certain changes in the scoring, so that it stands as follows:

The Leiter Scale—Revised Scoring

Year V	1. Matching shapes by color and dots.
	2. Associating articles of clothing by use.
Year VI	1. Arranging squares in size gradation.
	2. Matching two-color circles.
Year VII	1. Animal classification test.
	2. Series completion (*a*) and (*b*).
Year VIII	1. Recognition of age gradations.
	2. Series completion (*c*) and (*d*).
Year IX	1. Matching shades of gray.
	2. Arranging activities in time sequence.
Year X	1. Matching natural and geometrical forms.
	2. Line completion.
Year XI	1. Matching photographs of footprints.
	2. Counting concealed cubes.
Year XII	Dot estimation.
Year XIII	Similarities (glass and bottle, letter and book, ax and penny, etc.)
Year XIV	Association of opposites.
Year XV	Position analogies (relation of square, circle, triangle, and dot).

The average test quotient by the old form of the Leiter scale was about 112 for white children of better-than-average social grade.

A survey of the tests in this scale shows a wide variety of measures of observation of similarities and differences, and tests of the classification type, all involving care and accuracy of comparison. Though the material consists mainly of pictures of concrete things, it is the abstracting of principles or a simple generalizing that is essential to success. It is not hard, therefore, to understand why the scale, though entirely nonverbal, correlates so well with the Binet scale. It differs most from the latter by reason of the fact that memory plays little or no part in success. Common knowledge is, of course, at a premium in solving the various problems.

The Form and Assembling Test. Most of the tests previously described in this book are not scored on speed of reaction, and in some cases a measure of alertness in dealing with a task may be necessary. Otherwise, the slow, plodding individual who ultimately succeeds, but only after laborious effort, is favored. Where a test of speed is necessary, the Form and Assembling Test has been found useful. It consists of a number of parts of a hammer, a knife, a wheelbarrow, a coffeepot, and a chair printed on slips of cardboard and also on a cardboard sheet. The task is first of all to match the parts as quickly as possible and after that to assemble the two parts of the barrow, the three parts of the knife, the four parts of the coffeepot, and the eleven parts of the chair. The total time of these operations is taken and a mental age standardization is allotted. The scoring for the test is given on the next page, and the standardization is shown in Table XVI.

Scoring of Form and Assembling Test

Below 70 seconds, 20 years
From 70 to 79 seconds, 19 years
From 80 to 89 seconds, 18 years
From 90 to 99 seconds, 17 years
From 100 to 109 seconds, 16 years
From 110 to 119 seconds, 15 years
From 120 to 129 seconds, 14 years
From 130 to 139 seconds, 13 years
From 140 to 149 seconds, 12 years
From 150 to 159 seconds, 11 years
From 160 to 169 seconds, 10 years
From 170 to 181 seconds, 9 years
From 182 to 194 seconds, 8 years
From 195 to 209 seconds, 7 years
From 210 to 224 seconds, 6 years
225 seconds and over, 5 years

NOTE. The Form and Assembly Test can be obtained from the Extension Department of the Training School, Vineland, N. J. Its cost is one dollar.

TABLE XVI

STANDARDIZATION OF FORM AND ASSEMBLING TEST

Chronological Age	*Number of Children*	*Average Test Age*	*Standard Deviation*
7.5	146	7.03	1.64
8.5	115	8.66	2.45
9.5	276	9.21	2.48
10.5	305	10.32	2.53
11.5	326	11.71	2.81
12.5	412	12.43	2.89
13.5	418	13.14	2.77
14.5	486	13.90	2.76
15.5	347	14.35	2.74
16.5	288	14.88	2.91
17.5	239	15.28	2.68
18.5	169	15.60	2.74

The Arthur Performance Scale. Owing to what its author considers a threefold inadequacy of the Binet scale, the Arthur Performance Scale, consisting of a series of nonverbal tests, has been arranged. It is designed to be applied when there is a language handicap or where the subject has a speech defect and "because the Binet scale fails to give an adequate report of the intelligence of the individual in whom verbal and nonverbal abilities are markedly unequal in their development." [3] Arthur thus implies agreement with the procedure advocated in this text, namely, that of applying performance tests to all children and not merely to those who have a hearing or a language handicap. Without such application it is evidently impossible to detect the cases in which verbal and nonverbal abilities are markedly unequal. Clinicians everywhere are now taking a definite stand on this matter. For example, Westburgh writes:

> Naïve acceptance of single test results, even in the limited sense in which they may legitimately be regarded as an aid in a clinical study, has done much to discredit the use of tests. . . . The clinical psychologist, if he is to feel sure of his ground in rendering a diagnosis, dare not rely on the result from a single test, or even on results from two.[4]

Because of the necessity for extending the testing schedule, scales such as Arthur's, which combine a number of various tests, are coming into common use in clinics. Her scale consists of two forms. Most of the tests included in Form I have already been described. They are as follows:

[3] Arthur, Grace, *loc. cit.*, p. 1.

[4] Westburgh, Edward M., *Introduction to Clinical Psychology for Students of Medicine, Psychology, and Nursing*, pp. 26, 27. Copyright The Blakiston Company, Publishers, 1937.

1. Knox Cube Test
2. Seguin Form Board
3. Two-Figure Form Board
4. Casuist Form Board
5. Manikin Feature-Profile
6. Mare and Foal Test
7. Healy Picture Completion Test I
8. Porteus Maze
9. Kohs Block Design

Form II is, perhaps, less adequately standardized and in some instances the tests are variants of those found in Form I. They are listed as follows:

1. Knox Cube (series reversed
2. Seguin Form Board
3. Triangle Test (Gaya)
4. Five-Figure Form Board (Paterson)
5. Ship Test Form Board (Glueck)
6. Healy Picture Completion Test II
7. Porteus Maze (inverted)
8. Kohs Block Design

Notwithstanding the fact that Arthur [5] dropped some of the poorer form-board tests which had been used in the Pintner-Paterson Scale, her scale is still overweighted with form boards of various kinds. No less than five of Form I and four of Form II are tests of ability to perceive spatial relationships. As scores in the scale are arrived at by totaling the allotted points and converting the sum into mental ages, it follows that form boards may contribute five ninths of the score earned in Form I and half of the score obtained in Form II. However, no one has yet proved that ability to perceive spatial relationships is of such importance in intelligence. Hence this overweighting of form-board tests is unjustified. There is room for at least one good form-board test in every clinical battery, but to include four or five in a scale which uses cumulative points to obtain a mental age score is an extremely dubious procedure.

[5] *Loc. cit.*, Vol. II, p. 10.

Criteria of Validity. The reason why form boards are so important in the Arthur scale is due to the principle of selecting tests on the basis of their discriminative value—that is, on how well they differentiate abilities at successive age levels. This procedure has already been criticized by Spearman and Porteus. Terman and Merrill, however, make use of this method, which they say "is indirect, but not conclusive, evidence of validity" —a statement which prompted Spearman to make the suggestion that correctness of spelling, speed of reaction, or even acquisition of teeth might also have been included, since they satisfy the criterion.[6] This difficulty is recognized by Terman in his discussion of discrimination value as a basis for selecting tests: "Height, for example, increases with age, but is known to be practically uncorrelated with brightness." Under these circumstances, it is difficult to see why discrimination value should be considered even an indirect criterion of validity. Its sole value is in showing the possibility of including a trait or ability in a chronological age-scale of measurement. This trait or ability might be height, or weight, or time taken to run a hundred yards, or strength of grip, or any other of many abilities that increase with age during the developing period. But this is no reason for including such tests in a scale for measuring intelligence or for using discriminative value as a basis for weighting tests.

Apart from the question of the validity of the Arthur Performance Scale, its relation to the Maze test and the Binet scale is interesting. With fifty delinquent cases examined in Los Angeles, the correlation of the Arthur scale with the Binet was .48 and with the Porteus Maze

[6] Spearman, C., *Human Factor,* October, 1937. See also Terman and Merrill, *Measuring Intelligence,* p. 10.

was .59. With the same group of cases, the Maze-Binet correlation was .45.

Using the same divisor (16 years) for calculating test quotients, the mean for the Arthur scale ($n = 172$) was 84 and for the Stanford-Binet, 76. For the Maze ($n = 100$) the mean was 82. By some psychologists this lower average for the Binet might be taken as evidence of its validity as a measure of social capacity. This, however, would be a very hasty and unsatisfactory interpretation. Reference to the chapter on factors in delinquency (see page 300) points the lesson of its complex causation, indicating that social rebels are not necessarily social incapables and that it is futile to expect that all delinquents will score poorly in tests of social adaptability.

As a matter of fact, this whole matter of proving the validity of tests is in a most unsatisfactory state. Except as an index of educational capacity or school brightness, little statistical evidence of validity has been presented for any test. There are, to be sure, in every clinic thousands of records of tests of children who have been known to be socially incapable, and this experience tends to prove that there is a relationship between low scores in certain tests and social capacity. But who knows what score is to be considered diagnostic or how many exceptions there are to the rule? In short, clinical usage is by no means a sufficient guide to test validity, and the statement by a psychologist that a certain test *works* is worth very little in comparison to a proper statistical evaluation.

Consequently, because of the almost total lack of this essential evidence, the devisers of tests have been thrown back upon the use of such indirect methods as the discrimination value or, worse still, have relied upon the

self-correlation device, a proving of the test by itself. A test item under this method is deemed suitable for inclusion if it correlates highly with the rest of the scale as a whole. This may be a good measure of homogeneity but not of validity. A further reference to this difficulty is made by Terman and Merrill when discussing as a principle of validity "increase in per cents passing by mental age." They recognize the inadequacy of this criterion, but condone the procedure on the grounds that "the purpose of the [Terman-Merrill] revision was to provide scales closely comparable to the old with respect to the mental abilities tested." [7]

Thus the validity of the tests of the new scale is made to depend upon the insufficiently validated old scale. Again and again this is the procedure adopted by test devisers, as, for example, by Arthur when she speaks of her method of comparing different test traits as producing "results that agree closely with those obtained with the most useful intelligence scales available at the present time." We have the spectacle of a great number of tests hanging on to each other like a bridge of monkeys, each hoping that the grip of the first on the branch of validity is strong enough to sustain itself and all the rest of the tribe.

The author has attempted to set up an independent criterion of validity in the Social Rating Scale which has been described in the previous chapter. Garrett and Schneck,[8] in discussing this evidence for the validity of the Maze as a measure of social sufficiency, rightly characterize it as "slight," but one needs to put up no special

[7] *Loc. cit.*, p. 10.

[8] Garrett, H. E., and Schneck, M. R., *Psychological Tests, Methods and Results,* Harper & Brothers, New York, 1933.

plea for the view that slight proof of validity is better than none at all. Because of the importance of this matter, the correlations of certain other performance scales with this social criterion are also given in this chapter.

Studies in the Validation of Other Performance Scales. In a study carried out at Vineland, New Jersey, for the purpose of testing validity, a number of tests were applied to a group of 44 defective males ranging in age from 14 to 35 years and in mental level from high-grade imbecility to borderline mentality. The psychopathic and markedly delinquent cases were excluded so that the group might be considered representative of the fairly well-adjusted feeble-minded. They had all been in the Training School at Vineland for periods exceeding two years, and the average length of residence would be not less than five years. Hence their social characteristics were very well known and they could be rated rather closely by the director of education and the supervisor of their home cottages. The work of applying the various tests and working out the correlations was done by Miss Doris Dewey.

Using the pooled social ratings as a criterion, various tests were studied with regard to their relation to the diagnosis of social sufficiency, which, as we have seen, is one of the important criteria for mental deficiency. These tests may be briefly described.

The Seguin Form Board.[9] The Seguin Form Board, so called because it was first devised by Seguin for the training of defectives, was used because it is frequently applied in clinics. As it is well known, little need be

[9] This test is included in the Arthur scale, the Pintner-Paterson Scale, the Boston Psychopathic Hospital Nonlanguage Scale, the Gaw Performance Scale, etc. It is also known as the Goddard Form Board.

said of it except that it is one of the earliest tests of appreciation of spatial relationships and probably led the way for the introduction of other form-board tests, such as the Worcester, Dearborn, and Ferguson. Its basis of scoring is the speed with which various geometrical forms can be fitted into corresponding insets in a board.[10]

The norms used were those given by Goddard in early work with this test, and they refer to the best of three trials given to the subject. Goddard thought very highly of this test and expressed his belief that no other shows as much about a child's condition in so short a time. The experience of Porteus and others does not tend to rate it so highly. At the lower mental levels, for example, up to about 8 years mental age, it is a very useful test of ability to see spatial relationships quickly. Above that level the test changes its character and becomes very largely a test of speed and dexterity of movement. Thus it loses value as a mental test and partakes much more of the nature of a sensori-motor test whose correlation with intelligence at this level is not high.[11] With the group of defectives in Miss Dewey's study,[12] it correlated .53 with the social criterion and .54 with the Binet. On the basis of these results, the Seguin-Goddard Form Board is not recommended for use with normal children older than 9 years. For classifying mentally deficient cases it is, however, of distinct value. A Mongolian imbecile or a

[10] These tests are all described in *A Manual of Individual Mental Tests and Testing* by Bronner and Others, Little, Brown & Company, Boston, 1927.

[11] F. L. Wells (*Mental Tests in Clinical Practice,* World Book Company, Yonkers, New York, 1927, p. 132) makes this similar observation: "One may suppose that in early years the governing factor is perception of form and that in later years manual skill gradually assumes preponderance."

[12] See Porteus, Dewey, and Bernreuter's *Race and Social Differences in Performance Tests.*

young defective can often be induced to place the blocks in the form board when all other tests are inapplicable because of the child's lack of comprehension and interest. To make any partially successful attempt to place the blocks is indicative of a mental age of about $2\frac{1}{2}$ to 3 years.

The Kohs Block Design Test. Another interesting test is the Kohs Block Design [13] in which seventeen designs in color must be constructed by means of similarly colored blocks. Kohs found a correlation of .82 with the Stanford-Binet, but with this group of defectives Miss Dewey found a coefficient of only .52. However, the relationship with the social criterion was close, represented by a coefficient of .71, indicating that the test would be a very useful aid in mental diagnosis, especially as it is independent of language. One of its chief difficulties is the time it takes to apply, usually about 30 minutes, though Kohs himself gives the average time as 20 minutes. More serious, however, is the objection that it is a very difficult test to give, the strain of counting moves and observing errors being considerable.[14] Contrary to expectations, the primitive people who were tested with the Kohs design could not be interested in it at all. Some white subjects also find it tiresome and lacking in variety.

Capacities Tested by the Block Design Test. As a test of planning, the Block Design Test suffers one disability: as the designs become more complex, it does not call for better planning capacity but simply for the exercise of more of the same capacity. The problems may be at-

[13] Kohs, S. C., *Intelligence Measurement: A Psychological and Statistical Study Based upon the Block-Design Tests,* The Macmillan Company, New York, 1923.

[14] Arthur reports that disregarding the counting of wrong moves and scoring the test on speed alone yields almost equally good results.

tacked in small units rather than envisaged as a whole. Since the designs become more complex simply through the addition of new units, they call for more planning only in the same way that a twelve-room house would require more designing than a six-room house if the rooms were all of the same character.

The correlations of the Block Design Test with other tests were, however, quite high. They were .68 with the Porteus Maze, and .78 with the Social Ratings Scale when the Kohs mental age was combined with the Binet. If the extra time required for application is not any particular objection, the value of the Kohs test is undoubted. According to Arthur's results,[15] the discriminative index of the Block Design Test was also high.

Results with the Pintner-Paterson correlated .66 with the social criterion, and when the median mental age was combined with the Binet, the correlation rose to .70. This was not nearly so high as the coefficients obtained when either the Maze (.82) or the Kohs Block Design (.78) were combined with the Binet.

The results with the Form and Assembling Test were very interesting. It correlated with the social criterion .72, second only to the Maze, which correlated .77. Its intercorrelations were .69 with the Maze and .74 with the Block Design. This high coefficient with the last-named test is explicable on the grounds that both these tests are scored on speed.

The latter consideration makes one hesitate to recommend equal weighting for the Form and Assembling Test in clinical use. As has been pointed out, the time available for testing ordinary cases that come to the clinic is limited, and supplementary tests are mainly useful for ap-

[15] *Loc. cit.*, Vol. II.

plication in cases of doubtful diagnosis. The careful subject, anxious to avoid error at all costs, is necessarily penalized in a test scored on speed. Clinical experience leads one to the conclusion that this excessive care in working is very rarely a feeble-minded characteristic; hence the probability that a test such as the Kohs or the Form and Assembling may show quite high correlations with the usual run of feeble-minded cases but be indecisive when applied to the borderline or special case.

Test Not Applicable to Primitive Groups. Experience in the testing of primitive peoples confirms this view. It has been found quite useless to attempt to apply tests scored on speed to these subjects. Savages see no need for hurry, but if they are interested in a test such as the Maze, they will often attack it with a painful degree of persistence and dogged caution, and they appear to feel keenly any failure on their part.[16] Clinical psychologists must, therefore, beware of speed tests which, if applied for the purpose of mental diagnosis, would declare whole tribes of primitive people feeble-minded. There is no complete parallel with the testing of borderline cases, but the savage would find his counterpart in the mental reactions of some white individuals who become extremely anxious and overprudent when faced with a new task. In spite of high intercorrelations, the Form and Assembling Test is not, therefore, specially recommended as being of equal value with other performance tests.

The Rorschach Test. Another test of an entirely different character is the Rorschach test. It is quite un-

[16] This observation, made by Porteus when testing Australian aborigines, is confirmed by a recent experience described by Dr. Cora Dubois, who applied the Maze test to a group of natives on an island near Timor. She reports that in many cases concern amounting to anxiety was shown in the test performance.

standardized, but it commends itself to clinical use because of its apparent ability to provide insight into traits which are not brought to light in other tests and are not otherwise easily open to observation. At the present writing it cannot be classified as more than a promising instrument, as a great deal of research must be completed before its trait inventory can be verified by the establishment of criteria of validity. It thus stands in the position of the Downey Will-Temperament Test of a few years back, for which continued experiments failed to show that the traits it listed were really measured by the scale. There is, however, a large literature springing up with regard to the Rorschach test and experimental evidence of its validity is beginning to be accumulated. It is perhaps best classified as a test of personality since it is based on the principle that each individual has his own distinctive way or style of reacting and that even his interpretations of objects of perception, such as ink blots, will reflect that style. The uniqueness of the individual's response is the basis of the definition of personality. (See Chapter VII.)

Taking it at its face value, the Rorschach ink-blot test is one of the most promising of the newer techniques whose avowed aim is to study the "total personality" of the individual. Its underlying hypotheses are closely related to the Gestalt school of psychology. The majority of tests attempt to measure the subject's reaction to a standardized situation, the material of which is the same for every subject. The ability he displays in mentally rearranging or interpreting this material is presumed to be predictive of a certain type of behavior. In the Rorschach test, because of the very formlessness or fluidity of the material, the imagination supplies the content and thus

the test investigates the individual's inner mode of experiencing the external world rather than his ability to approach a standardized reaction to it. It is primarily a test of apperception.

The test consists of the interpretation of accidental, undetermined shapes produced by throwing ink of various colors upon pieces of paper, which are then folded, the blot being spread by wiping. The apparatus consists of ten standard blots—five black, two black and red, and three in various colors. The procedure is to give the subject one plate after another and ask, "What might this be?" The responses are recorded verbatim and are classified according to categories empirically established. There is no time limit. The important thing is to have the test performed without compulsion as far as possible. The majority of subjects enjoy taking the test, and it is usually accepted even by the most distrustful and inhibited mental patient.

What Is Observed in Rorschach Performance. In both the scoring and the interpretation of the responses, the objective content is the last thing to be considered. It is the *formal* aspect of apperception and comprehension which is considered. The examiner wishes to know:

1. Whether the answer has been determined only by the shape of the blot or by the sensations of movement or by color in addition.

2. Whether the picture has been comprehended as a whole or in parts, and in what parts.

3. Whether the sequence of answers proceeds in a logical, orderly fashion from wholes to parts or from parts to wholes, or in a haphazard or confused fashion.

4. What has been seen.

Conclusions in regard to the type and degree of intelligence and the temperamental characteristics of the subject are based on these formal aspects of his record, although the content of the answers may give additional clues as to his inner life or the quality of his environmental influences. For example, a subject may be diagnosed as a compulsion neurotic by the mere form of his record, but much could be learned concerning the nature of his compulsion by the examination of the content of his replies.

Classification of Responses. At the completion of the test, inquiries are made as to the influence of color and also the existence of a sense of motion or touch where these facts are not at first made clear. For example, the subject might be asked, "Would your interpretation of this portion be the same if it were black instead of red?" or "Why is this an acrobat?" To this last query the reply might be, "Because he is doing tricks" or "Because he is dressed like a circus performer." The first answer would be scored B and the second F. The responses must then be scored according to the Rorschach categories. The symbols to represent these categories vary, the majority of American psychologists having Anglicized the original German abbreviations. The symbols established by Rorschach himself are as follows:

G Plate interpreted primarily as a whole (*Gansantwort*).
D A "normal" detail in the plate interpreted.
Dd An unusual or very small detail interpreted.
Dzw The white spaces between the dark or colored portions interpreted instead of or in connection with the blot itself. (*Dazwischen*)
F Interpretation entirely determined by the form.

B Interpretation determined by kinesthetic affluxes in addition to form.

FFb Interpretation determined primarily by form, but also by color. (*Form-farbe*)

FbF Interpretation determined primarily by color, but also by form. (*Farbe-form*)

Fb Interpretation determined entirely by color.

(Fb) Interpretation determined not only by form, but also by shading. Black and white here are used as color values.

T Animal figures interpreted. (*Tier antworten*)

O Original answers not occurring more than once in 100 answers.

The test is technically so simple that it is claimed it may be given to children, adults, ignorant or even uncivilized persons,[17] as well as to the educated, the normal, or the insane.

Difficulties of Application. Let no one suppose, however, that because of this simplicity the test can be handled by any novice. It requires a skilled clinical psychologist to put the subject at his ease and to find out accurately the portion of the blot to which he is referring and the exact meaning of his response. Extreme tact and considerable experience are needed to frame questions which will lead the subject to explain his frequently brief initial responses without giving him clues which will cause him to change his interpretation or withdraw into silence because he feels he is being criticized. The scoring can be mastered only by arduous and continuous study and practice, and since the test has not been completely standardized, it is necessary to keep up with the latest

[17] Some recent attempts by Dr. Cora Dubois to apply the Rorschach test to natives of an island in the Timor Sea were, however, unsuccessful.

research on the subject. The interpretation demands not only a well-assimilated knowledge of the Rorschach hypotheses and of the mechanisms of behavior (normal and abnormal), but also the innate capacity for empathy which no amount of academic study can supply. Unless one is willing to subject himself to a long and rigorous apprenticeship, followed by continuous practice with the test, it will not be worth his while to experiment with it. While a few fundamental pointers are given here, they are not to be construed as a substitute for a thorough study of the references included in the bibliography.

Test Interpretations. (1) *Abnormal Types.* It is possible to estimate intelligence surprisingly well by means of the test. In a recent study of 50 school children, the psychologist's estimate of intelligence from the Rorschach records correlated .78 out of a possible .89 on a 5-point contingency table with the combined Binet and Maze scores.[18] When one considers the elements upon which the estimate of intelligence is based, these results do not seem so surprising. Rorschach believed that good "whole" interpretations indicated the ability to select quickly from a wealth of associations aroused by the blot certain related ideas and weld them into one meaningful configuration. This ability to some degree corresponds with what is known as abstract intelligence. A large percentage of such good "whole" interpretations indicates intelligence of good quality. Other factors are: clearly perceived forms, a large number of responses influenced by the inner creativity of the subject, a small number of interpretations which take some stereotyped form, such as

[18] Hunter, Mary, "The Practical Value of the Rorschach Test in a Psychological Clinic," *American Journal of Orthopsychiatry,* Vol. IX, No. 2, April, 1939, pp. 287-294.

animals, an optimum number of original responses, and a logical (though not rigid) progression in the portions of the blot selected for interpretation from larger to smaller details.

It is possible to detect abnormal emotional states. The test was originally devised to detect psychotic or prepsychotic trends, and it is said that Rorschach himself gained such proficiency in interpreting the test results that he could diagnose the type of insanity from which a patient was suffering by studying a test record sent from another hospital. A study [19] of patients suffering from psychoses of organic origin recently was made in two New York hospitals, with the result that it was possible to select ten signs of abnormality by which the organic cases could be discriminated from the nonorganic cases of insanity. Many other such studies of psychotics could be cited.

The psychologist in the average clinic, however, need recognize only the signs of instability or neurotic rigidity in the subject's record. The emotionally unstable are apt to be more talkative, to select a great many small or unusual details and give them "far-fetched" interpretations. They are usually unable to weave the associations aroused by small details of the blots into a meaningful whole interpretation. They respond strongly to color, give fewer good original answers, select items for interpretation in a haphazard fashion, and give a very low percentage of stereotyped responses. Their responses give the impression of being disorganized, impulsive, and fantastic and are thus symptomatic of mental disorder.

[19] Piotrowski, Zygmunt, "On the Rorschach Method and Its Application in Organic Disturbances of the Central Nervous System," *Rorschach Research Exchange,* Vol. 1, No. 2, November, 1936.

The inhibited, compulsive neurotic, on the other hand, struggles for the most precise and accurate interpretation of forms, uninfluenced by either color or the sensation of motion. In fact, he often denies that his answers are interpretations and insists that he is detecting the actual intention of the designer. He proceeds in a strictly logical fashion from interpretation of the whole blot to large details and then to small. He has very few original interpretations and a large number of stereotyped ones.

It is possible to tell the general temperament of the subject, whether introversive or extrotensive. Those subjects who have a tendency to withdraw into themselves and live a rich inner life give many "movement" interpretations; those whose attention is directed outward and who are highly responsive to external influences give many interpretations which are primarily determined by the color of the blot.

(2) *Relation to Intelligence.* A rough estimate may be made not only of the general level of the subject's intelligence but of the type. It is suggested that the abstract thinker, the philosopher, the creative artist or writer—those who are interested in the *meaning* of things behind the appearance—are the subjects who give the highest percentage of interpretations to whole blots, highly imaginative as regards content. The person with the scientific type of mind usually chooses details and gives them remarkably suitable interpretations, conforming closely to the actual form or color of the portion selected. Another type is the overmeticulous, conscientious plodder who never sees the forest for the trees, but goes on and on picking out smaller and smaller details, never combining them, trying to make up for the mediocrity of his ideas by his thoroughness.

The outstanding contribution of the test, however, is not that it gives a measure of an individual's intelligence or emotionality in relation to a group norm, but that it shows the pattern into which these qualities are organized —the interrelation, the balance or imbalance within the individual. For example, a subject may give a number of pure color interpretations, indicating strong and egocentric emotionality; but if circumstances have taught him to use his reason as a control over these dangerous impulses, his record will also show a number of "motion" interpretations or an insistence on clear-cut form or a studied logic in his progression from one part of the blot to another.

Value of the Test in Clinical Use. It is evident from these brief suggestions that the test promises to be a highly sensitive instrument for delving into the inner life of the subject, and that it seeks to provide a wealth of clues to the unique organization of his personality for the psychologist who is alert to note them and skilled in interpreting their implications.

In the average psychological clinic the test's greatest value is in studying the individual whose daily achievement does not measure up to his potential ability as shown by standard intelligence tests, or in whose performance on various types of tests wide discrepancies appear. Thus a child who is inattentive and uninterested in school, cannot concentrate, and seems generally dull and unresponsive, although his Binet results indicate a good mental endowment, may give a Rorschach record clearly indicating a state of chronic anxiety or a stunted psychic development which interferes with his work or with the free play of his intelligence. Thus leads are provided for further diagnostic study.

The test requires from a half to three quarters of an hour to give, and probably an hour more to score and interpret; but if its validity is confirmed by further investigation, its value will be considerable. It predicates more about the subject than a battery of the usual "personality" tests or an equal amount of time spent in interviews. One conspicuous advantage over the usual paper-and-pencil "inventories" is that it offers no clues to the sophisticated or "test-wise" individual by which he can produce the type of impression which he considers desirable. It demands little insight and capacity for introspection. It reveals much of which the subject himself is not aware and therefore could not tell even though he tried to be honest. It requires no reading ability and only a modicum of language. Some of the time and energy spent in the average clinic on various attempts to measure personality might well be diverted into mastery of the Rorschach technique.

References for Chapter VIII

Arthur, Grace, *A Point Scale of Performance Tests,* Commonwealth Fund, New York, 1933

Beck, S. J., *Introduction to the Rorschach Method: A Manual of Personality Study,* American Orthopsychiatric Association Monograph, No. 1, 1937

Drever, J., and Collins, M., *Performance Tests of Intelligence,* Oliver and Boyd, Edinburgh, 1928

Gaw, Frances, *Performance Tests of Intelligence,* Report No. 31, Industrial Fatigue Board, 1925

——, "A Study of Performance Tests," *British Journal of Psychology,* Vol. 15, 1925

Healy, William, "Pictorial Completion Test II," *Journal of Applied Psychology,* Vol. 5, 1921

Hertz, Marguerite R., "The Rorschach Ink-Blot Test: Historical Summary," *Psychological Bulletin,* Vol. 32, 1935

——, "The Reliability of the Rorschach Ink-Blot Test," *Journal of Applied Psychology,* Vol. 18, 1934

Hunter, Mary, "Responses of Comparable White and Negro Adults to the Rorschach Test," *American Journal of Psychology,* Vol. 3, 1936

Klopfer, B., *The Technique of the Rorschach Performance,* Rorschach Research Exchange, 2, 1937

Kohs, S. C., "The Block Design Test," *Journal of Experimental Psychology,* Vol. 3, 1920

Leiter, R. G., *Leiter International Performance Scale,* 1940

Porteus, S. D., *Primitive Intelligence and Environment,* The Macmillan Company, New York, 1937 (See Chapter XIX.)

Porteus, S. D.; Dewey, Doris M.; and Bernreuter, Robert G., *Race and Social Differences in Performance Tests,* Clark University Press, Worcester, Mass., 1930

Rorschach, H., *Psychodiagnostik,* Hans Huber, Zurich, 1932

Vernon, P. E., "Recent Work in the Rorschach Test," *Journal of Mental Science,* Vol. 81, 1935

CHAPTER IX

The Feeble-minded Child

The Survival of the Unfit. In considering the applications of the definition of intelligence to cases seen in clinical practice we come across one of the most interesting anomalies of civilized life. With the whole trend of human development set towards enlarging the significance of the environment, we note the continued presence in society of a large number of individuals whose range of response to relevant stimuli is so restricted that they do not, except under special social conditions, have the ability to survive. These are the feeble-minded, for whom humanitarian sentiment provides the protection, support, and care necessary for their existence. Among primitive peoples the individual who is congenitally incapable of self-support is soon eliminated, the struggle for existence being too keen for the charitable sustenance of the unfit. Thus their conditions of life determine both the diagnosis and the prognosis.

In civilized communities, however, the problems involved are not met so summarily. We have no lethal chambers for the incapable, and science has not yet evolved any satisfactory plan whereby mental deficiency can be either prevented or eliminated. Family and social life have developed so many protective devices, particularly in the way of keeping the young from being thrown into the rough and tumble of life, that the test of experience is long deferred. So many factors enter into social

efficiency that it is by no means an easy task to detect the potentially unfit. In some individual cases it may take very little to tilt the balance against them.

Older Standards of Diagnosis. Probably the diagnosis of mental deficiency is the most responsible work that the clinical psychologist is called upon to undertake, and yet it is one that is often assumed very lightly. It is a most serious matter to declare a person feeble-minded; at best it may mean a most undesirable stigma; at worst it may result in lifelong incarceration in an institution. It may be argued that a mistaken diagnosis is of little importance, since if the individual is near the borderline of normality, his chances of success in community life are not good. The sheltered life of a good institution, it has been said, provides a greater likelihood of happiness than the cruel and severe competition of everyday existence. But this omniscient attitude, this claim to determine for others what is good for them has little or no justification. If it is an established legal principle that a savage dog must be allowed one bite, then an individual with just a slight chance to float in society must be given that opportunity. The question may be asked as to whether mistakes in diagnosis occur. The answer must be in the affirmative, for the writer has never been in an institution for defectives without seeing some individuals who in his opinion have been wrongly confined.

Apart from the injustice to the individual, a wrong diagnosis may be extremely costly. There are so many who really need institutional care that for the community to assume responsibility for the lifelong control of persons capable of social self-management is wasteful in the extreme. Errors in diagnosis must often, but not invariably, be laid at the door of inadequately trained mental

testers; medical men are also misled by the appearance of mental defect and are liable to confound the slow and dull with the deficient. However, they more commonly err by assuring parents that their feeble-minded offspring will grow out of their handicap. In such cases the cruelty is to the parents rather than to the children. Both because of the importance of the task and its difficulty, the present chapter aims to deal with the matter of mental diagnosis.

The present confusion in standards is in great measure the outcome of overconfidence in the accuracy and the diagnostic value of mental tests, particularly the Binet-Simon. The history of these tests is so well known as to need little more than passing reference. The first evidence of their validity, as applied in America, was presented by Dr. Goddard when he used them in 1908 on the inmates of the Training School at Vineland, trying them out against the collective judgment of teachers, cottage supervisors, and others who were familiar with the children in their institution life. The tests possess a high degree of validity up to about a 7-year or 8-year level, and consequently the degree of agreement between their verdicts and the supervisors' judgments was surprising. Unfortunately, there was a tendency to minimize or disregard the negative instances and also the important fact that the cases of disagreement occurred at mental ages of 9 to 12 years—the critical levels. Even had the modern correlational techniques been used, the errors in prediction might easily have been overlooked. An interesting result—and one with most serious consequences—of these early surveys of the population of feeble-minded institutions was that there were discovered practically no individuals with Binet mental ages above 12 years. In

the absence of a noninstitution control group it was hastily assumed, therefore, that 12 years mental age marked the lower limits of normality, and this assumption was accepted quite widely. Morons, a classification corresponding to the English designation of the highest grade defectives, were defined as individuals with mental ages from 8 to 12 years.

Mental Defect as a Social and Hereditary Problem. For a time, due to the results of all kinds of hastily planned and hurriedly reported investigations, feeble-mindedness was regarded as the root cause of social problems such as delinquency, crime, alcoholism, prostitution, and dependency. One study reported 60 per cent of juvenile court cases as being mentally defective, while 50 per cent of prostitutes and 72 per cent of girls in a reform school were also found to be feeble-minded. The most conservative estimates were those of Healy and Miner, who each arrived at 7 per cent as the incidence of mental defect among delinquents. One authority went so far as to lay down the dictum that "every wrongdoer is irresponsible until proved responsible."

Field workers with six weeks' training or less as mental testers were sent to gather data on the heredity of feeble-mindedness. Every instance of alcoholism, of the bearing of an illegitimate child, of crime or delinquency was regarded as evidence of this condition. The belief was held that field workers could be trained to recognize mental deficiency, even without tests, either in the individual that they observed or in others concerning whose lives they were able to learn from their social histories. From this whole-hearted faith in the simplicity of mental diagnosis it was an easy transition to the belief that it was equally possible to determine the status of people

long since dead. Hence the most famous of all studies in this line could use as a starting point the offspring of a Revolutionary officer and a supposedly feeble-minded girl about whom so little was recorded that even her name was unknown.

Considering the inadequacy of the scientific investigations then current, no blame is really to be attached to the field workers. At a time when one mental test study showed as high as 93 per cent of delinquents defective, it was no wonder that poorly qualified workers, impressed as they were with the new theories of heredity, found in the social data only the evidence they were looking for. As an example of misplaced enthusiasm an actual field report is reproduced below. (The italics are ours.)

Report of Field Worker in Feeble-minded Heredity

C—— W—— is foreman in one of the rubber mills of East Trenton. Both he and his wife lead scandalous lives together and apart. At present they are living together after having been for a time separated. They are not so feeble-minded as they are bad. I called at the house and saw the mother and the two children. The oldest is nine and attending Hamilton School; the youngest girl is five with large dark eyes and beautiful golden curls all over her head—just as bad as she can be and spoiled. Her teeth look to be syphilitic. As an excuse for entering this polluted house, I came asking for the address of G—— W—— (the one whose wife does not live with him, and a copy of whose marriage certificate I obtained, signed by a minister).

I was well received and sat for some time talking of indifferent things—having now their good will, by begging the saucy little girl for her curls—and thus had an opportunity of studying them. Ella, the child of nine, was home from school for the day "not feeling well," the mother said. She

was a lithe, rather graceful little thing, *but her eyes had the unmistakable look of the sex pervert.* From their home I went to the school. The family had only lived in the neighborhood a short time, and the principal, a very intelligent young woman, but quite unawakened to work in our line, was gracious, wanted to be obliging but, having known nothing whatever of the family history in this case, assured me that she could be of no service to me—the child was unquestionably normal and that was all she could say. In all decency I should have gotten up and left but I didn't! I kept on talking indifferently of our work—spoke of the look in the child's eyes—mentioned the word "moron." Instantly she was all attention, "Would you say that word again—it means? What did you say were some of the characteristics of this type?" Soon she was saying, "Well, we might see her teacher—Ella, you see, is in the first grade, of course, being transferred and having been out of school a whole year through sickness"—to all which I assented—a normal child of nine might be in the first grade, of course. When the matter was put to the teacher, she answered quickly just as the principal had done—"Normal? Oh, yes, she's normal." However, we stood talking; first one and then the other began to remember certain things regarding her conduct and work—the strange look in her eyes was referred to. "Wasn't she the one found writing the love letter?" "Surely"—the teacher remembered, for such a thing had never come within her experience before as first-grade teacher. The whole matter was discussed and it was found indeed that *the key fitted the lock*—not only this child but several others, impossible to class as feeble-minded, were discovered to belong to a type that needed careful study and oversight.

Later Views on Heredity. It may be objected that this crusading attitude is now ancient history, but it is a matter of record that this same investigator was employed in a follow-up study and her earlier work praised

by a psychologist who spoke of its "authentic value" and "the scientific merit and validity of the data on which conclusions might be drawn from her field work." [1]

Unfortunately, the later studies exhibited the same hasty judgment. In speaking of the eleventh child of a feeble-minded woman, the statement was made that "no information has reached us regarding his development. *It can, however, be safely inferred from the few facts known about the other placed-out children of Mag.*" Another girl was put down as feeble-minded because of her bad family antecedents and immorality, the comment being: "As no one in her environment knew of the hereditary taint of her family, her listlessness in school was never attributed to feeble-mindedness." Because of mental dullness another woman was put down on the family chart as mentally deficient, as were also her three children, then in public school, "for whom mental tests have been requested by the school authorities." Apparently the request itself and not the test results was sufficient evidence of feeble-mindedness.

Fortunately, the results of these studies have been largely discounted and more conservative views as to the importance of heredity in feeble-mindedness now prevail. In a study of 671 foster children by Freeman, Holzinger and Mitchell,[2] only 4 out of 26 children whose parents were both rated feeble-minded had Binet I.Q.'s below 70. A conservative estimate would be that no more than 20 to 30 per cent of the mentally defective had one or both parents feeble-minded.

[1] *The Problem of the Feeble-minded in New Jersey,* Publication No. 14, Department of Institutions and Agencies, New Jersey, July, 1929.

[2] "Influence of Environment on the Intelligence, School Achievement, and Conduct of Foster Children," Chapter IX, *Twenty-seventh Yearbook,* National Society for Study of Education, 1928.

The Vineland Definition of Moronity. This careless diagnosis in field work was all the more surprising when we consider that as far back as 1917 fairly definite criteria were being set up for diagnostic guidance. These were formulated, for example, by the staff of the Vineland Laboratory and were published by Doll. Moronity was defined as follows:

> Permanent mental arrest where the intelligence level is between mental ages of 8 and approximately 12 years; that degree of feeble-mindedness represented by persons who (*a*) may learn to read and write to some extent but who profit little from ordinary school instruction beyond the fourth school grade, (*b*) may learn to perform relatively simple industrial tasks with occasional oversight and may be capable of earning a living under favorable conditions, but who lack foresight and are incapable of ordinary adaptation to changed conditions, (*c*) may acquire certain normal habits of action but who lack judgment (common sense) and the ordinary powers of resourcefulness, abstract reasoning, and insight.[3]

It may, of course, be objected that the clinician has inadequate opportunities for judging some of these abilities, but this definition has the decided merit of reference to industrial, educational, and social criteria, which presumably must be satisfied in diagnosis in addition to the psychological test performance. This point is emphasized by Doll when he says, "According to current usage, no person can be termed feeble-minded unless he can be proved socially incompetent as well as mentally inferior." Taking the Vineland definition as a whole, it provides an excellent concise description of feeble-minded behavior.

[3] Doll, Edgar A., *Clinical Studies in Feeble-mindedness,* Richard G. Badger (now associated with Chapman & Grimes, Inc.), Boston, 1917.

I.Q. Definition of Mental Defect. Unfortunately, this conservative standpoint in mental diagnosis was not maintained, and strangely enough the faulty emphasis that was placed on the mental age criterion came about through the excellence of the testing instrument. The Terman or Stanford revision represented such an improvement on previous forms of the Binet that it bore for a time the aspect of an all-sufficient means of diagnosis. Undoubtedly Terman's own pronouncements contributed, though perhaps unwittingly, to this overconfidence. Writing of the determination of mental defect, he says:

> For this purpose there is nothing else as significant as the I.Q. All those who test below 70 I.Q. by the Stanford revision of the Binet-Simon scale should be considered feeble-minded, and it is an open question whether it would not be justifiable to consider 75 I.Q. as the lower limit of "normal" intelligence. Certainly a large proportion falling between 70 and 75 can hardly be classed as other than feeble-minded even according to the social criteria.[4]

In calculating the I.Q., Terman used 16 years as the highest chronological divisor, but other psychologists, relying mainly on the evidence provided by the Army Tests that the average mental age was a little less than 14 years, used 14 as the divisor. If Terman's practice were followed, I.Q.'s of 70 would be attained by 16-year-olds who tested 11 years 2 months, by 12-year-olds who scored 8 years 5 months, and by 10-year-olds who tested 7 years. This pronouncement was accepted by many students as authoritative, with the result that very many of the merely dull or backward were branded as morons. How

[4] Terman and Merrill, *Measuring Intelligence*, Houghton Mifflin Company, Boston, 1937.

severe this I.Q. criterion really was is proved by the fact that the average mental age of Negroes in the South was, according to army examination results, only 10.4 years, which would mean that more than 50 per cent were below 70 I.Q. In fact, no less than 10 per cent were below the mental age of 8 years.

Incidence of Mental Deficiency. The acceptance of such abnormally high standards of normality has, of course, a distinct bearing on the incidence of feeble-mindedness in the country at large. Both Terman and Goddard in their surveys found 2 per cent of school children mentally defective, while Popenoe concluded that 4 per cent of the people in the United States had I.Q.'s below 70, an opinion based on a survey of Los Angeles public schools, the test used being the National Intelligence. Haines, from a survey of 11 states, found 3.2 per cent defective. No less than 6.2 per cent of the men in the army draft had I.Q.'s below 60. On the other hand, a conservative estimate was that of the British Royal Commission in 1904, which considered that 0.403 per cent, or about 4 per 1000 of the population, were feeble-minded. A study carried out by Dr. E. O. Lewis for the British Mental Deficiency Committee in 1927 doubled the former estimate, raising the incidence to 8 per 1000.

Similarly conservative estimates were made in America prior to the general use of the Binet scale as a diagnostic measure. Fernald in 1915 estimated .4 per cent, and the Nassau County survey gave .544 per cent in 1917. The discrepancy between these figures and the estimate of 2 per cent of school children defective should be noted, as there was a similar discrepancy in England. Lewis judged that about 1.2 per cent of English school

children were defective, or one and a half times the figure for adults.

Doll in several papers has given his opinion that 1 per cent of the general population and 2 per cent of the school population are feeble-minded, although he has also stated that the most reliable school surveys indicate that as high as 4 per cent of primary pupils are mentally deficient. As far as is known, he is the only one who has attempted an explanation of this strange discrepancy, the greater frequency in childhood being "in part accounted for by the comparatively early mortality of the feeble-minded, which for the institutional feeble-minded is at approximately twenty years, but in the general population is past fifty." However, as only about 15 per cent of the mentally defective are in institutions, it would seem rather hazardous to compute the death rate from these cases, as they naturally include many of the physically handicapped low-grade cases whose mortality rate is high.

The great disproportion of juvenile aments may be explained on other grounds. Defectives may become normal as they grow older or else feeble-mindedness may be increasing from one generation to the next at an alarming rate—both very unlikely explanations. Experience inclines us to the more sober conclusion, namely, that the use of tests such as the Binet grossly exaggerates the evidence of mental defect among children.

Acceptance of this view would clear up another puzzling matter, namely, the varying estimates of the relation of feeble-mindedness to juvenile delinquency and adult crime. Doll again is the authority for the statement that "in the New Jersey State Home for Boys, approximately 30 per cent of the population is feeble-minded; in the New Jersey Reformatory, approximately

15 per cent; and in the New Jersey State Prison, approximately 8 per cent." [5]

There are three possible explanations of this drop in the percentages. One is that defective delinquents, like the good, die young; another is that they reform as they grow older; the third, and most probable, is that the measures of juvenile mentality are to some extent invalid. The adult has had the chance to demonstrate his ability to compete with the normal population. In his case both the industrial and social criterion can be applied, while the juvenile is often stigmatized on the basis of an "intelligence quotient" obtained by a single application of a Binet test. On the other hand, the mental examiner will hesitate to call feeble-minded a man who has been self-managing and self-supporting for some years, even though his mental quotient seems to be comparatively low.

Modern Standards of Diagnosis. There has, however, been a swing in psychological opinion since the days when Terman stated that "there is not one case in fifty in which there is any serious contradiction between the I.Q. and the child's performance in and out of school," and the equally confident view that "the common opinion that the child from a cultured home does better in tests solely by reason of his superior home advantages is an entirely gratuitous assumption." [6] By 1928 Goddard was pointing out the inapplicability of the formerly ac-

[5] Doll, Edgar A., "Community Care of the Feeble-minded," *Training School Bulletin,* November, 1926. See also "Social Adjustment of the Mentally Subnormal," "Control of Mental Deficiency in the United States," and "Community Control of the Feeble-minded" by the same author.

[6] Terman and Merrill, *Measuring Intelligence,* Houghton Mifflin Company, Boston, 1937.

cepted mental age criterion. After stating his opinion that Terman's 70 I.Q. standard was far too high, he said:

> In view of these facts, honesty and fairness compel us to raise the question: Is it possible that during all these years we have placed the limit of feeble-mindedness too high? Is the real limit 7 years, instead of 12?

The answer to this question is probably neither *yes* nor *no* but that the Binet by itself should not be relied upon as a diagnostic measure.

It is this latter view that has been advanced in very definite statements by Doll. After pointing out the fact that 10 per cent of the army recruits had Stanford-Binet I.Q.'s below 60, he writes:

> Now we discover that the high-grade feeble-minded and the low-grade normal superficially resemble each other in verbal intelligence, although their differences are fundamental. Obviously, then, intelligence alone, at least as measured by a single verbal intelligence test, is not an all-sufficient criterion of feeble-mindedness.[7]

This discovery, it might be noted, agrees very well with the observations of Porteus published seventeen years previously. Nevertheless, Doll's paper included what is probably one of the most incisive indictments of faulty methods of diagnosis:

> The widespread use of verbal intelligence tests, especially the Binet Scale, unsupported by the use of nonverbal and performance tests and unsupported by family history, developmental history, and the other departments of the clinical syllabus, has produced a widespread confusion in the recognition

[7] Doll, Edgar A., *Education and Training of the Feeble-minded,* Proceedings of the 56th Annual Session of the American Association for the Study of Feebleminded, May, 1932.

of mental deficiency at the borderline. There is further confusion in interpreting the significance of intelligence or degree of brightness in terms of color, nationality descent, and social status. The widespread and somewhat indiscriminate use of mental tests, even by some professionally trained examiners, has resulted in an over-simplification of mental diagnosis and classification which confuses the educational issues.

The History of Children Defective by I.Q. Definition. The difference in social capacity of the dull normal over the mentally defective is emphasized in a study by Baller,[8] who followed into adult life cases who had been diagnosed as feeble-minded while at school. He compared 206 supposed mental defectives, all with I.Q.'s below 70, with an equal number of normal and bright children. The study took into account ability to conform to the laws and customs of the community, occupations and stability of employment, economic self-sufficiency, subsequent schooling, and family conditions, including marital status.

In the first place, 7 per cent of the subnormal group were deceased, indicating a higher-than-average death rate; 6.5 per cent were in institutions for the feeble-minded; 33 out of the 206 completed Grade VIII, 3 finished high school, and one entered college. This penetration of the higher levels of education was achieved by only about 10 per cent, but consider what a tragedy of injustice would have occurred if, on being diagnosed, all these cases had been confined in institutions.

As regards the social record, we must remember that the parents of the subnormal group belonged on the

[8] Baller, Warren R., "Study of the Present Social Status of a Group of Adults Who, When They Were in Elementary School, Were Classified as Mentally Deficient," *Genetic Psychology Monographs*, Vol. 18, No. 3, 1936.

whole in the lower industrial groups, a fairly large proportion being on relief while others had criminal or disorderly records. Under these circumstances, not all the social inefficiency uncovered by the study is to be ascribed to mental deficiency. Twenty-five per cent of the group had juvenile court records, while 19 per cent had been in jail, reformatory, or penitentiary. On the credit side, however, 83 per cent were either partially or wholly self-supporting, 40 per cent requiring at some time help from relief agencies.

Adding to the number who had been in jail or feeble-minded institutions those who were not at the time of the study supporting themselves, we obtain a figure of 44 per cent. If we assume that permanent institutional care would have been advisable for this group, we still have 56 per cent for whom segregation and care was unnecessary. What would have happened had the state of Nebraska accepted the diagnoses and sent all these individuals to institutions? The per capita cost of such care is in the neighborhood of $500 per annum. At a conservative estimate, the city of Lincoln saved itself an outlay of about $50,000 a year by disregarding the results of the mental examinations. We are forced to conclude either that many mental defectives do not constitute a serious social problem or that about 60 per cent of these cases were wrongly diagnosed in childhood and were not feeble-minded at all. If this state of affairs is at all general, then it constitutes a serious indictment of the competence of clinical psychologists in this country.

Added significance is given to this distrust of clinical tools and workers through the fact that child-guidance clinics have been set up in large numbers chiefly under the aegis of the National Committee for Mental Hygiene.

These clinics are largely directed by psychiatrists with, in many cases, inadequately trained psychometrists employed to do the mental testing, the results of which are interpreted by the psychiatrist in charge of the clinic.[9] The psychiatrist, however, is even less capable than the mental tester of judging whether or not the mental examination has been adequate or of knowing what diagnostic weight should be attached to the psychometric findings. Notwithstanding the fact that almost every psychologist, medical or otherwise, who has had experience with defectives decries the practice, thousands of individual reports are written and quoted in scores of studies where sole reliance is placed on the results of a Binet test. It should be repeated that there is no task in clinical psychology more difficult than correctly to differentiate the dull from the defective, no responsibility more serious than to pronounce an individual feeble-minded, and no work that has been more lightly assumed by insufficiently qualified persons.

It is because of the great importance of this whole problem that the matter of mental diagnosis is accorded so much attention in this book. So many psychologists are engaged in teaching or research of a nature that does not bring them into professional contact with the socially and mentally insufficient that they either are unaware of the difficulties of mental diagnosis or are indifferent to the poor work that is often done in this field by their confreres. Fortunately, standards of qualification for consulting psychologists are now being set up.

[9] In 1917 Dr. C. Macfie Campbell, using the resources of the Phipps Psychiatric Clinic, reported (in *Mental Hygiene* for January, 1917) a survey indicating subnormality in 166 children in a school district in Baltimore. Seventeen years after the original survey Dr. Ruth Fairbank made a follow-up study, obtaining results similar to those found in Baller's investigation.

Other Suggested Definitions of Mental Defect. The matter of a clear and adequate definition of mental defect is of prime importance in every country where by institutionalization, special education, sterilization, or controlled supervision in the community provision is attempted for the feeble-minded. Unfortunately, while many definitions have been formulated, each has been, on one score or another, subjected to criticism.

In English usage the Mental Deficiency Act of 1927 provided the following definition:

> Mental defectiveness means a condition of arrested or incomplete development of mind, existing before the age of eighteen years, whether arising from inherent causes or induced by disease or injury.

It will be noted that this definition makes no reference to any social criterion and leaves the burden squarely on the psychologist or medical examiner to demonstrate "a condition of arrested or incomplete development of mind." *Mind* is a very general term and gives us no hint as to what abilities must be shown to be incomplete. There is probably a period in all of us in which development is arrested, and very many abilities, such as rote memory, are complete before 18 years of age. Is color blindness or the inability to sing or remember a tune to be considered evidence of incomplete development? In default of stating any criterion, the English definition says little more than that mentally defective persons are feeble-minded.

Tredgold, an English authority, has put forward what he calls a biological definition of amentia:

> A state of incomplete mental development of such a kind and degree that the individual is incapable of adapting him-

self to the normal environment of his fellows in such a way as to maintain existence independently of supervision, control, or external support.[10]

In this formulation the reference to the social criterion is clear. Incidentally, we note that Tredgold rejects very decidedly the "mental ratio" or the intelligence quotient as the basis of a satisfactory definition, yet the determination of the "kind and degree of incomplete mental development" must certainly be effected by the use of psychological tests.

In 1921 the National Committee for Mental Hygiene attempted to set up criteria. Its classification, on the basis of test scores, was as follows:

Idiot —mental age not more than 2 years 11 months; or, if a child, I.Q. below 25.
Imbecile—mental age between 3 years and 6 years 11 months; or, if a child, with I.Q. between 25 and 49.
Moron —mental age between 7 and 12 years; or, if a child, with I.Q. between 40 and 74.

The mental ages referred to above are presumably to be arrived at by Binet examination alone, an indefensible procedure. In addition, the proposed standards for moronity are, according to all the evidence, entirely too high.

Let us say that a feeble-minded person is one who by reason of mental defects, other than sensory, cannot attain to self-management and self-support to the degree of self-sufficiency.[11] It will be noted that this definition excludes the deaf and the blind, avoids the use of the too generalized term *mind,* and emphasizes the social cri-

[10] Tredgold, A. F., *Mental Deficiency* (*Amentia*), 5th edition, William Wood & Company, Baltimore, 1929.
[11] See Porteus, S. D., *Studies in Mental Deviations,* Training School, Vineland, N. J., 1922.

terion. In this last respect it accords with the view of the British Mental Deficiency Committee of 1929, which held that "the only really satisfactory criterion is the social one." It also agrees closely with Tredgold's definition, quoted above.

A Sociopsychological Definition of Mental Defect. But the social criterion is not the only satisfactory one. Mental tests are now universally used for the diagnosis of mental deficiency, so that it seems foolish to be framing a definition solely in social terms. Though mental defect implies social inefficiency, social inefficiency does not necessarily mean mental defect. Feeble-mindedness is a mental condition with social effects, and as a mental condition it should be demonstrable by mental tests. What it is now proposed to do is to combine if possible the social and the psychological criteria. The following definition seems most acceptable: Mental defect is recognizable social inadequacy dependent upon low mental capacity as demonstrated by standard mental tests.

How can social inadequacy be recognized? The last chapter referred to the three fields in which an individual is expected to make adequate responses, so we would expect an adult to demonstrate his competency in three ways:

1. He should be able with ordinary opportunities to have acquired a usable education.

2. Under ordinary industrial conditions he should be able to earn a living.

3. He should be able to adapt his behavior to the commonly accepted standards of his social group.

As far as the author's clinical experience goes, incompetency in these three fields is indicated by either of two mental criteria, using a minimal mental testing practice:

(*a*) Average I.Q. by Binet and Maze (or other standard performance scale) of 60 or below; or
(*b*) Both Binet and Maze I.Q.'s below 65.

Using 14 years as the divisor in the case of adults, these I.Q. levels represent an average mental age of 8 years 5 months for (*a*) and 9 years for (*b*). The adoption of these standards will not obviate completely the use of the diagnosis "borderline defective," but it will at least decidedly diminish the number of these doubtful cases. Note again that the tests mentioned represent merely minimum requirements for examination purposes, and in very many cases a much wider testing schedule will be employed. The application and interpretation of these tests has been described in earlier chapters.

Application of Proposed Mental Standards. Of 500 delinquents examined at the Hawaii Psychological Clinic, 139, or about 28 per cent, had Binet I.Q.'s below 70. By the standards set forth above, about 10 per cent fall within the mentally defective limits. Of 82 adult criminals, 5 per cent were of equally low level. The discrepancy between the two percentages can be explained by the fact that the delinquents were in some cases selected for examination on account of the probation officer's suspicion that they might be defective, whereas the adult criminals represent a more random sampling. For similarly unselected juvenile delinquents the percentage that were feeble-minded would be about 7, the estimate arrived at by Healy and Miner.

Children of recent immigrants and others who came from homes where limited English is spoken—and this would include most Indians, Mexicans, and Negroes—are very often presented for examination at psychological

clinics. It would be decidedly interesting to inquire as to how many of such cases would be classified as mental defectives, using the standards we have outlined. Hawaii's polyglot population of Japanese, Chinese, part Hawaiians, and Filipinos are all educated in English in the public schools, but in many cases are accustomed to hearing a very restricted English spoken at home, the parents often speaking their native tongue. Of 600 unselected school children recently examined in Hawaii, no less than 25, or 4 per cent, fell below an I.Q. of 70 by a Binet scale specially modified to diminish as far as possible the effect of language disabilities. When, however, the Binet and Maze I.Q.'s were combined as suggested, the number of those falling below the limits set was only 6, or 1 per cent. This is a reasonable incidence, and it indicates the applicability of these standards even in the most difficult conditions for proper diagnosis.

Educability. The industrial criterion cannot, of course, be applied in the case of children, but reliable social prognosis is possible by the use of methods that are described later. With regard to the educational criterion, the grade placement can sometimes be used as an index of school achievement. When this is not reliable, the clinical psychologist needs to have at his command an easily applied measure of the child's attainments in the elementary school subjects. In the following appendix there is given an educational scale with a point score. The child is allotted the highest step reached on the scale less the number of lower steps failed. It will be found that very few defectives can average above 7 points in the four scales for reading, spelling, number, and sentence comprehension. A score of 8 or above indicates the achievement of what may be called "a usable education."

Appendix to Chapter IX

Educational Attainment Scale

Reading Test

1. cat rat mat
   Conditions of Success: Child reads
   1 of 3 words correctly..... Score 1
2. pen pan dog
   2 of 3 words correct..... Score 2
3. *Can you see* the man and his dog on the hill?
   3 of 4 words italicized correct..... Score 3
4. A *little* red *bird* came down to get a *drink* from a cup of *milk*. A cat saw it and it *flew* away.
   4 of 5 words italicized correct..... Score 4
5. A cat was *looking* at *some* birds one day and she *said* to *herself*, "How I wish I had one of those nice fat birds for my *dinner*."
   The birds *heard* her and flew away.
   5 of 6 words italicized correct..... Score 5
6. One day a little girl *named* Mary found a hen *sitting* on a nest with a dozen eggs under her. In about three weeks there were *eleven* little *white chickens around* their *mother*.
   6 of 7 words italicized correct..... Score 6
7. After a few *bright* sunny mornings in *spring* all the peach trees will come out in *flower*. The pink and white *blossoms* make a very *pretty* sight indeed. In a little *while* the *fruit* will begin to form. Are you fond of *peaches?*
   7 of 8 words italicized correct..... Score 7

8. The *Sandman* comes *across* the land
At *evening* when the sun is low,
Upon his back a bag of sand.
His step is soft and slow.
I never hear his *gentle tread,*
But when I bend my *sleepy* head,
"The Sandman's *coming,*" Mother says,
And Mother tells the *truth always.*
8 of 9 words italicized correct..... Score 8

9. The March Hare took the watch and looked at it *gloomily;* then he *dipped* it into his cup of tea and looked at it again; but he could think of *nothing* better to say than his first *remark:* "It was the best butter, you know." *Alice* had been looking over his *shoulder* with some *curiosity.* "What a *funny* watch," she remarked. "It tells the day of the *month,* and *doesn't* tell what *o'clock* it is."
9 of 11 words italicized correct..... Score 9

10. In these times it is well for us to *remember* that we come of hardy stock. The Anglo-Saxon race, with all its *strength* and *virtues,* was born of hard times. It is not easily kept down; the victims of *oppression* must come of some other stock. We who live in America and *constitute* the heart of this *Republic* are the sons and *daughters* of "Him that *overcometh.*" We are *descended* from a race *untainted* by *luxury, untouched* by vice, and *uncrushed* by oppression.
11 of 13 words italicized correct..... Score 10

Spelling Test

1. cat mat fan
   1 of 3 words spelled correctly..... Score 1
2. cat mat fan
   2 of 3 words correct..... Score 2
3. see hill cup
   1 of 3 words correct..... Score 3
4. see hill cup
   2 of 3 words correct..... Score 4
5. girl play good
   1 of 3 words correct..... Score 5
6. little found mother
   1 of 3 words correct..... Score 6
7. flower bright eleven pretty
   2 of 4 words correct..... Score 7
8. breakfast holiday prison
   2 of 3 words correct..... Score 8
9. soldier ordinary several
   2 of 3 words correct..... Score 9
10. separate recommend Christmas business
    3 of 4 words correct..... Score 10

Number Test

1. Counting 3 objects..... Score 1
   Counting 4 objects..... Score $1\frac{1}{2}$
2. Counting 5 objects..... Score 2
3. Counting 11 objects. $2+2$ $3+2$
   2 of 3 correct..... Score 3
4. Counting 13 objects. $3+3$ $4+5$
   2 of 3 correct..... Score 4
5. Counting by 2's to 20. $2+4+3$ $6-4$
   2 of 3 correct..... Score 5
6. $3+4+5+6$ $9-5$ How many cents in a nickel?
   2 of 3 correct..... Score 6

7. $14 + 26 + 17 \quad 27 - 8$ How many cents in 2 dimes?
   2 of 3 correct..... Score 7
8. $423 + 387 + 455 \quad 62 - 27 \quad 4 \times 9$
   2 of 3 correct..... Score 8
9. $635 - 267 \quad 7 \times 8$ How many 4's in 32?
   2 of 3 correct..... Score 9
10. $76 \times 8 \quad 96 \div 4$
    If an apple costs 5 cents, how many apples can be bought for half a dollar?
    2 of 3 correct..... Score 10

Tests of Sentence Comprehension

General Instructions. Read statement and question to child, allowing an oral response. Record as basic score the highest step reached without failure. Add to this score advance credits for successes in any higher step.

1. The cat bit the rat.
   What did the cat bite?
   Correct answer.... Score 1
2. The tin has milk in it.
   What is in the tin?
   Correct answer.... Score 2
3. Mary likes to help her mother.
   What does Mary like to do?
   Correct answer.... Score 3
   ("Help" is given half credit. If child gives an answer such as "Sweep," "Wash dishes," say, "You were not told that in what I said. Listen again." Then repeat the test.)
4. A girl found a dime and two nickels on the floor of her house.
   What did the girl find?
   Correct answer.... Score 4
   ("20 cents" is given full credit.)

5. John was sent to buy a strap for his skate at the store.
   Why did John go to the store?
   Correct answer.... Score 5
   ("To buy a strap" is given half credit.)
6. We hurried along all day and a little while after it was dark we reached the town.
   When did we reach the town?
   Correct answer.... Score 6
   ("After it was dark" is given half credit. If the child answers "Seven o'clock" or an approximate hour, adopt procedure as in Test 3 and repeat.)
7. One night in a dream a man saw a train stopping at a station.
   What did the man dream?
   Correct answer.... Score 7
   ("A train stopping at a station" is given half credit.)
8. The evening train to town travels much faster than the morning train.
   Why is the evening train better than the morning train?
   Correct answer.... Score 8
   ("It has more speed" and "Gets to town quicker" are given full credit. If answer is "Does not have as many stops," repeat test.)
9. Of all the continents, Africa has the largest animals in its forests.
   How does Africa differ from the other continents?
   Correct answer.... Score 9
   ("It has the largest wild animals" is given full credit; "It has the largest animals" is given half credit. If facts irrelevant to

the statement in the test are given, repeat test as in 3, 6, and 8.)

10. Fish, gold, and furs are the most valuable commercial products of the territory of Alaska.

What do people do for a living in Alaska?

Correct answer.... Score 10

References for Chapter IX

Bernstein, Charles, "Colony and Extra-Institutional Care for the Feeble-minded," *Mental Hygiene,* Vol. 4, 1920

Binet, Alfred, and Simon, T., *The Intelligence of the Feeble-minded* (translated by Kite), Training School, Vineland, N. J., No. 12, 1916

Clark, L. Pierce, *The Nature and Treatment of Amentia,* William Wood & Company, Baltimore, 1933

Davies, Stanley P., *Social Control of the Mentally Deficient,* The Thomas Y. Crowell Company, New York, 1930

Doll, Edgar A., *Clinical Studies in Feeble-mindedness,* Richard G. Badger (now associated with Chapman & Grimes, Inc.), Boston, 1917

Fernald, W. E., "Standardized Fields of Inquiry for Clinical Studies of Borderline Defectives," *Mental Hygiene,* Vol. 1 (See pp. 211-234.)

Goddard, H. H., *Feeble-mindedness: Its Causes and Consequences,* The Macmillan Company, New York, 1914

——, *The Kallikak Family,* The Macmillan Company, New York, 1919

——, *Psychology of the Normal and Subnormal,* Dodd, Mead & Company, Inc., New York, 1919

Herd, Henry, *The Diagnosis of Mental Deficiency,* Hodder & Stoughton, Ltd., London, 1930

Lapage, C. P., *Feeble-mindedness in Children of School Age,* Longmans, Green & Company, New York, 1928

Landman, J. H., *Human Sterilization,* The Macmillan Company, New York, 1932

Myerson, Abraham, *The Inheritance of Mental Diseases,* The Williams & Wilkins Company, Baltimore, 1925

Porteus, S. D., *Studies in Mental Deviations,* Training School, Vineland, N. J., 1922

Report of the Mental Deficiency Committee, H. M. Stationery Office, London, 1929

Seguin, Edward, *Idiocy; And Its Treatment by the Physiological Method,* Teachers College, Columbia University, New York, 1907

Tredgold, A. F., *Mental Deficiency (Amentia),* 5th edition, William Wood & Company, Baltimore, 1929

Wallin, J. E. W., *Clinical and Abnormal Psychology,* Houghton Mifflin Company, Boston, 1927

CHAPTER X

Abnormal Children

Psychology and Social Work. The kind of psychological clinic which is most likely to be established in connection with a university is of the advisory or consultative type. That is to say, it will not attempt one class of treatment—that which seeks to change the external physical environment of its subjects. That task may well be left to workers specially trained in family consultation service. This service may seek to alter the child's or parents' attitudes so as to make the home and family a greater source of satisfaction to the individual, or, failing that, it may arrange a new set of social contacts through foster-home placement or institution commitment. Social case workers are now specially trained to recognize and deal with the various factors involved in these major environmental changes, so that it would seem economical of time and effort for the psychological clinic to work in conjunction with child-placing agencies and the like rather than to employ trained social workers of its own. Its function as a consultative agency is then clear and unambiguous, whereas if it attempts to carry on social treatment in all its phases, there will be overlapping and duplication of effort as regards other social organizations.

In social case work there are many psychological angles, and the psychoclinician should certainly be able to add materially to the social worker's knowledge and to

improve her approach with regard to the individual case. No matter how well trained for social work a person may be, she is neither a psychologist nor a psychiatrist. Unfortunately, the present trend of case-work training seems to aim at giving the worker a smattering of psychiatric and psychological knowledge and a glib acquaintance with such terms as "I.Q. level," "ego or libidinal satisfactions," and the like. These give a more scientific coloring to case histories, but little or nothing more than that. There is a tendency to use a nice-sounding phrase or a generalization, to cover a lack of full understanding of the case. For instance, when a parent is impatient or dissatisfied with the child's behavior, it is easy to call this a "rejection," without specifying in what directions and for what reasons the child is rejected. So many terms of this nature make convenient places from which to jump to conclusions.

Mature opinion leans heavily towards the view that psychiatric or psychological training cannot be adequately included in the social worker's curriculum except for orientation or introductory courses. Since a little knowledge may be a dangerous thing, the social worker, psychiatrist, and psychologist must learn to co-operate rather than each to attempt to cover the whole field of social maladjustment.

As far as the psychological clinic is concerned, it can work very closely with social case workers provided the members of its staff are familiar with the psychological factors of social work and appreciate thoroughly the interplay of constitutional or innate factors in the individual with the factors external to himself. The present chapter deals with some of the more difficult problems that are likely to be brought by the case worker to the

clinic for aid in treatment. For clinics that carry on treatment through their own social workers, a much fuller discussion of the external or environmental factors will be found in such books as Rogers' *The Clinical Treatment of the Problem Child*. There is, however, a question as to whether the treatment therein described should not more properly be described as social rather than clinical.

The Problem of the "Moral Defective." Among the most puzzling problems and one that is commonly brought to the psychologist for suggestions as to treatment or disposition is that of the constitutional inferior, so-called. Every social agency has had experience with these cases, who appear to have a talent for creating difficult situations. They seem to resent discipline and restraint of any kind, even of the mildest variety; they fall into inexplicable tantrums, in which they frequently become violent; at times they are negativistic to all advances, no matter how friendly or well-intentioned. In intelligence they may range from the very dull to the very bright. They may be best described as individuals who, while neither psychotic nor feeble-minded, cannot make adjustments to the ordinary requirements of social existence. In England the type is recognized, but the individual is very inaptly designated "moral defective." This suggests an innate capacity called "moral sense," the existence of which most psychologists would question.

Tredgold, in his well-known textbook on the feeble-minded, devotes considerable attention to moral defectives and the psychological basis of their antisocial conduct.[1] He first of all traces the tendency of society "to

[1] Tredgold, A. F., *Mental Deficiency (Amentia)*, 5th edition, William Wood & Company, Baltimore, 1929. See Chapter XVII.

impose more and more restrictions upon instinctive actions, with the result that conduct would become more and more deliberate and less impulsive." In order to be law-abiding, according to Tredgold, the individual "must be able to form a clear mental picture of his acts before they are committed, he must be able to judge of their consequences to himself and to others, and he must be able to restrain his instinctive tendencies and forego present gratification in accordance with the judgment so formed." These qualities of "foresight, judgment, and control" he identifies with *wisdom*. Thus he seems to emphasize, somewhat unduly, the intellectual factor of foresight, and to diminish the importance of the temperamental factor of prudence. It is not that the antisocial individual does not foresee the consequences of his acts, but that he tends to disregard them.

Tredgold then goes on to describe the racial or phylogenetic development of an emotion or sentiment regarding the rightness or wrongness of actions, which with the lapse of time resulted in the formation of ideals of behavior and an individual "moral sense." But this attempt to make morality or social conformity transmissible by heredity is hardly acceptable. However, though we may deny the reality of any innate moral sense, we may accede to the idea that there is a certain constitutional make-up, which may be hereditary, that favors the development of a socially conforming, easily disciplined type of individual. On the other hand, there is a temperament that is aggressive, brooking no restraint, and little suited to subordination. That this complex of traits of self-assertion is not due entirely to environment is shown by the fact that even in primitive society, where social rule and tribal custom are so rigid and repressive and where

the consequences of nonconformity are sudden and severe, we still find some rebels. Also, among siblings subjected to essentially the same environmental influences, we find wide differences as regards social pliability.

The Behavior of the Constitutional Inferior. Yet, though we may reject the thesis that moral deficiency or constitutional inferiority is due to a lack of "wisdom and moral sense," Tredgold's description of the behavior of individuals of this type is much to the point and is worth quoting, if only for the reason that textbooks in this country do not pay adequate attention to the problems that such children create. After pointing out that their intellectual attainments may range from backwardness to brilliance, Tredgold says:

> But they are utterly selfish; they show not the slightest concern for the rights and wrongs of other people; they are devoid of affection, gratitude, shame, or remorse; they have no sense of personal responsibility; they are vain and conceited, but devoid of any real self-respect; they show a marked inability to profit by experience; they are intolerant of all discipline and authority; and they are persistent and incorrigible wrongdoers.[2]

There are two considerations that justify the view that these abnormal characteristics are constitutional: the first is that the deviations from normal conduct are so extreme, and the second, that they are persistently apparent at a very early age. It is noteworthy that they sometimes appear following head injury or brain disease. In attempting to explain the flagrant disregard of consequences that many constitutional inferiors display we must fall back on the theory previously set forth, that

[2] Tredgold, A. F., *loc. cit.*, p. 344.

all satisfactory or adequate responses are dependent upon the completion of a neural circuit. Because of their individual or social reference, certain acts or phases of conduct involve either pleasurable or painful effects. If, as seems probable, the thalamus subserves these affective accompaniments, it follows that a very wide circuit of response, involving in its linkage relatively distant parts of the central nervous system, is concerned. In cases of injury or disease or even the administration of drugs inducing local anesthesia, the circuit is changed by the elimination of the centers through which pain is felt. With the painful consequences eliminated, we may face the dentist's chair or the operating table with comparative equanimity, due to the fact that in the anticipatory rehearsal of the situation the realization of the ordinarily painful sensations has no place.

People probably differ considerably as regards the normal strength of the connections between the cognitive and the affective centers. Some of us have extremely vivid anticipations of the painful consequences of various acts, while others do not think realistically of risk or discomfort. For the latter type, the painful consequences become less relevant and the strongest motive for avoidance of the situation is no longer operative or operative to the same degree. A lively anticipation of consequences and the ensuing constant watchfulness is in normal people an excellent protection against automobile accidents. Criminal behavior, like that of the accident-prone, is probably due very largely to inability to make the realization of penalties part of the mental rehearsal of acts, and one of the conditions of cautious deliberation is to delay action until the weight of consequences can be fully appreciated.

The normal circuit may be interfered with, not only by the administration of drugs, such as alcohol, which diminishes inhibition, but by other means as well. Under hypnosis the individual may disregard all normal restraints and perform the most unwonted actions. The circuit of response may be "captured" or included in some more relevant system of response, so that the ordinary or immediate motive may be superseded by some more deeply ingrained purpose. This is what happened when Bishop Cranmer held his hand unshrinkingly in the flame to demonstrate publicly his unswerving mental resolution. Similarly, the strong desire of the constitutional inferior for the pleasurable affects of gaining the spotlight of attention, or of enjoying new emotional thrills, or his craving for the excitement of martyrdom may react so as to weaken his already feeble anticipation of normal consequences.

Egocentric Personalities and Their Treatment. This discussion of the problem of "constitutional inferiors"—perhaps no more descriptive a term than "moral defectives"—is justified on the grounds that, though they are comparatively infrequent, they constitute a type of case which is brought to the psychologist in the earnest or even desperate hope that his suggestions will form the basis for other attempts at social adjustment. It has been previously noted that textbooks on problem children frequently pass over this type with scant or no attention. One term often applied to them is "psychopathic"—an unsatisfactory designation, since in very many cases there is no indication of psychopathy or mental disease. Healy [3] would avoid what he calls the rag-bag diagnosis of psy-

[3] Healy, William, *Personality in Formation and Action,* W. W. Norton & Company, Inc., New York, 1938.

chopathy and describes them as "abnormally unstable, egocentric personalities." This description is apt, since it emphasizes the unpredictability of their behavior from hour to hour and the fact that their conduct is an uncontrolled expression of the ego of the moment without reference to the rights or feelings of others.

Experience with such cases agrees entirely on these three points: (1) that the prognosis for modification of their characteristic deviations and social maladjustments is not good; (2) that the prospects of adjustment with time are considerably better in cases of chorea or brain concussion—the truly psychopathic; and (3) that though in the generality of cases the outlook is most unpromising, certain cases, especially girls, seem to become better stabilized after marriage.

One of the difficulties in the disposition of constitutional inferiors of the antisocial type lies in the fact that no institution in the ordinary community setup will accept them as its special responsibility. Tredgold points out that they are "totally unfitted for the training institutions and colonies for ordinary defectives, and relatively few of them, though a grave social menace, are characterized by a degree of violence which would entitle them to be admitted to the State Institution" (for insane). The prison and the school for juvenile delinquents seem to be the only institutions left, and commitment to either of these represents merely a temporary disposition of the case. Under these circumstances, and in default of a special ward or institution, home placement would seem to be the only course left.

The most hopeful lead that we can get from the clinical picture of constitutional inferiors of the egocentric type is that they possess to excess the desire for new experiences.

They are often capable of violent temporary attachments to a doctor, a social worker, or some other person, and for a time at least seem amenable to this individual's suggestions. The social worker would do well to look for a foster home, preferably with one person, so that there will be a maximum of personal attention given to the case. If the foster parent or guardian possesses a fund of good humor and patience, so as to be able to keep up a judicious mixture of raillery and persistent but gentle suggestion, the individual may respond to this "spoilt child" treatment. Then when everything seems to have reached a maximum of satisfactory adjustment, the social worker *should remove the case to another home.*

This may seem like most extraordinary advice, but experience with this type of individual has led to the conclusion that they can last in a situation only so long, and that when things appear smoothest is the time to look out for squalls. If the change can be made before the outbreak, there is no consciousness of failure, and the more the total period of adjustment can be lengthened the better. The wise social worker will arrange for a rotation of placements, with the prospective return to the favored home held out as an inducement towards continued good behavior.

The best institutional handling of these puzzling and disappointing cases was seen at the Training School at Vineland, New Jersey—a school primarily for defectives. There constant care was exercised to change the cottage and industrial assignments of these cases at frequent intervals, regardless of good reports. In these cases it never paid to be optimistic in concluding that a permanent adjustment had been attained. If similar treatment could be accorded outside institutions, there is hope that the

problem of the placement of the constitutional inferior would be largely solved.

Cases of Glandular Imbalance. There are, of course, other types of cases besides the aggressive egocentrics. Almost equally serious behavior difficulties are met with in children who suffer from various kinds of glandular imbalance. These cases are well described by Timme, and they constitute primarily a medical problem. Since, however, they may be brought to the psychological clinic first of all because of the observed changes in personality or conduct, some of Timme's observations may be quoted:

> Children who suffer from a too early involution of the thymus also tend to be sexually and mentally precocious; are easily aroused to anger and are resentful. They have cruel instincts and show little inhibition. . . . They seem to retain their impulsive, unreasoning characteristics, brook no restraint, and remain constantly a prey to their easily aroused anger.[4]

In view of their impulsiveness, it would be interesting indeed to observe the responses of this group of cases to the Maze test.

Children of the hyperthyroid type exhibit extreme physical and mental activity, which frequently takes a mischievous or troublesome turn. Extremely interesting also are the conduct deviations which are associated with blood calcium deficiency, the most general feature being increased sensitivity to stimuli, especially of a social nature. Opposition and criticism irritate these cases very much, so that even a word of faultfinding or a glance of disapprobation suffices to cause violent emotional agitation, out of all proportion to the occasion. This calcium

[4] Timme, Walter, *Lectures on Endocrinology,* Paul B. Hoeber, Inc., New York, 1932, p. 20. Reprinted by permission of Harper & Brothers.

deficiency, being apparent in the blood, affects the responses in such a way that either the thalamic excitation is increased or, more likely, the inhibitory function of the cortex is diminished. In all probability the effect is chemico-mechanical.

Post-encephalitis Problems. Similar psychopathic symptoms are shown by another type of case infrequently brought to the clinic but always with an urgency of appeal for help. These are the post-encephalitics in whom the behavior disturbances are usually profound. Even after the more ordinary cases of meningitis there is often extreme irritability or apathy, and some become "highly unstable, lacking in emotional control, liable to impulsive acts, and generally difficult to manage."

The aftereffects of *encephalitis lethargica* are even more marked, though the occurrence of the disease may not be recognized, through the absence of any acute stage, the symptoms being sometimes those of influenza or even a common cold. The *sequelae* may, however, be extremely serious, involving a complete change in personality. Tredgold says:

> The individual who has previously been quiet, affectionate, and perfectly well-behaved undergoes a complete alteration of character and evinces marked and very often serious antisocial propensities. He becomes utterly irresponsible, and appears to have lost all affection and sense of right and wrong, and all control over his emotions and primitive instincts. He wanders away from home, lies, steals, and commits acts of violence and destruction.[5]

The above description characterizes very closely the conduct of these unfortunate cases. There is little that

[5] Tredgold, A. F., *loc. cit.*, p. 253.

can be done except the provision of a very special kind of school, such as was established by Dr. Bond and Dr. Appel at the University of Pennsylvania Hospital. Since smaller communities cannot hope to establish such residential schools, the best that can be done is to adopt some of the methods that Bond and Appel found most effective. Physical punishment was under strict prohibition, and the disciplinary methods used most were withdrawal of privileges and temporary isolation. Ample use was made of more positive approaches in the way of praise, rewards, and substitution of activities, while minor peculiarities of conduct were as far as possible overlooked.[6]

The rather striking resemblance between the behavior of the egocentric constitutional inferior and the case of endocrine gland imbalance certainly seems to indicate a chemico-physical basis for the former type of case. Indeed, the similarity of conduct is so close that the child who suddenly develops the characteristic mental traits is often diagnosed as a post-encephalitic, even though there is no medical history indicating occurrence of the disease.

Other Types of Constitutional Inferiority. There is, however, another type of constitutional inferior that deserves brief description, even though the disposition and treatment does not seem as puzzling. These are the vacillating, irresolute, or ambitionless individuals who seek to evade responsibility of every kind. The institution for defectives, if it will admit them, provides them with a refuge. In these cases there is often a regression towards dependent forms of behavior. In some cases, even

[6] Bond, Earl D., and Appel, Kenneth E., *The Treatment of Behavior Disorders Following Encephalitis,* Commonwealth Fund, New York, 1931.

when there is no overt homosexual activity, the male may adopt feminine pursuits. Childish fits of tempers and a foolish negativism are other characteristics of conduct. Strangely enough, we find the counterpart of this behavior also among glandular cases. For example, subinvoluted thymic individuals are described by Timme as being childlike and self-centered in character, of simple initiative, looking for protection and care, obstinate, and negativistic. The hypothyroid case is dull and sluggish, with little initiative, forgetful, out of step with the march of activities about him—a condition which sometimes induces outbursts of weak and ineffectual anger. If such cases are placed in an institution temporarily by the social worker, care must be taken that they do not adjust so well to the settled order of things that they become institutionalized to the point of complete dependence.

Epileptic Cases. The clinician in practice will also be consulted with regard to epileptic cases, although these, too, are primarily cases for the pediatrician. Psychologists must, of course, be familiar with the symptoms and prognosis of the disease. With regard to the latter, however, a word of warning should be uttered with reference to cases of minor epilepsy, or *petit mal*. Because the seizures are apparently so slight, the assumption is often made that the mental effects are less than in cases of major epilepsy, or *grand mal*. But even in cases where the attack is so momentary that consciousness appears to be merely dimmed, the mental consequences may be grave. In several cases that fell within the writer's experience the deterioration accompanying the disease was quite marked. Every case of epilepsy must be regarded very seriously, since the ensuing mental impairment is not always proportionate to the gravity of the seizures.

In cases where there is a history of seizures whose nature is doubtful, the evidence of an unbalanced mental development, as shown by tests, may well be decisive in determining a diagnosis of epilepsy. In the past, "scattering" or an irregular distribution of successes or failures in the tests has been somewhat exaggerated as a psychopathic symptom. Failures in rote memory well below the final mental age are so common that while the condition is most important from the standpoint of educational diagnosis, it is no indication of psychopathy. However, when the deviations from the normal pattern are extreme in directions other than rote memory and when there is a history of epileptiform seizures, "scatter" may be interpreted as evidence either of mental deterioration or of a decided interference with the ordinary course of mental development.

The examination record of a girl who began having frequent "faintings fits" at the age of 16 years is given below, as an example of extreme "scattering":

Binet Record—Composite Scale

Year VI.	3. Copying Bead Chain. Substituted squares for cylinders	Failed
Year VII.	1. Absurd Pictures. Only one correct ..	Failed
	2. Copying Diamond	Passed
	3. Repeating 5 digits. Wrong order....	Failed
	4. Repeating 3 digits backwards	Passed
Year VIII.	1. Story Memory—One question correct out of five	Failed
	All other tests passed	
Year IX.	Arranging weights, giving change, repeating 5 digits backwards, dissected sentences	All passed

Year X.	1. Absurd Picture	Passed
	2. Reading and Report. Four items remembered	Failed
	3. Word naming. Said 48 in one minute	Passed
	4. Repeating 6 digits	Failed
Year XI.	1. Memory for Designs	Failed
	2. Abstract Words	Failed
	3. Bead Chain	Failed
	4. Mental Arithmetic	Passed

Above this level the girl had three successes. In spite of her inability in four trials to repeat 5 digits in order, she said 5 digits backwards correctly three times in three trials. She also passed one arithmetic test at the average adult level. She nearly gained credit for the dissected sentence arrangement in Year XIII. Allowing her a basal year of 5 years and 18 advance credits of 3 months each would give her a mental age of 9 years 6 months. Her I.Q., using 14 years 6 months as the divisor, would be 68. The scatter of successes from 6 years to adult level is, however, the significant feature.

Her Maze test record showed an equally abnormal performance. She did not at first understand what was required in the 5-year test and required a second trial. In the 8-year test she made an obvious error, but succeeded in the 9-year test. She made two extremely foolish mistakes in working the 10-year test and failed the 11-year design by repeating the last possible error. Her score was only $8\frac{1}{2}$ years and her I.Q. 61. Qualitatively, her performance was most peculiar. After careful preconsideration she went at the actual trial so quickly that she cut practically every corner and required constant reminders to make an attempt to keep within the lines. In the 9-year test she crossed the lines eight times. She needed repeated warnings against lifting the pencil. It was characteristic of her to say, "Huh?" to every question or instruction as if it were an effort for her to fixate her attention.

In the sentence comprehension test she scored only $7\frac{1}{2}$ points out of 10, which is equal to a 9-year performance.

In spite of these low scores, the examiner did not feel that she was feeble-minded. Her social reactions, as far as could be judged from the interview, were fairly normal. Her account of her fits indicated that there was no warning "aura," that she was quite unconscious, that the seizures occurred sometimes at night at about weekly intervals, and that on several occasions she had lost bladder control. Menstruation was very irregular. A combination of the facts of the history indicated that the fits were epileptic. In any case, a diagnosis of mental deterioration was indicated.

Illustrative Cases. As additional examples of the specially difficult problems that occur in clinical experience, three cases who might be classified as constitutional inferiors are briefly described. One of these children was dull, another extremely bright, and the third, as far as general intelligence goes, was functioning at a feeble-minded level. One was actively and unrestrainedly delinquent, the second mildly so, the third showed no anti-social tendencies. The citations will thus prove the variety of problems that a single diagnostic or rather descriptive label must be stretched to cover, as well as the difficulty, if not the impossibility, of therapeutic treatment in certain cases.

The first individual was Julia C., who belonged to that most interesting group of children, the nonleprous children [7] of leprous parents—interesting because of the general retardation and conduct difficulties which they frequently display. After the parents had been removed to the leper settlement at Kalaupapa on the island of Molokai,

[7] A study of a large group of these cases has been begun at the Psychological Clinic of the University of Hawaii.

Julia was born and, as was the custom, she was removed in early infancy to the special home for these female children under the care of an order of Catholic Sisters. This home was probably above the average of children's institutions.

Except that she was always more or less troublesome, her conduct gave no special cause for concern until she was 14 years of age. She became extremely insolent to the Sisters, threw the clean laundry into the bathtub, tore her clothes deliberately, ill-treated the smaller children, splashed dirty water on floors freshly cleaned, used bad language (learned at public school, which she attended for a time), and generally made herself as much of a nuisance and an annoyance as possible.

At 13 years 8 months she tested 8 years 9 months by the Binet, I.Q. 64. She read with difficulty, could not make simple change, and had poor verbal ability. Her Maze performance was somewhat better, but indicated inferior planning and social judgment, her score being 10½ years, I.Q. 74. When given the Healy Picture Completion Test II she made a very good showing, obtaining 15-year credit, I.Q. 110. The diagnosis at the time was "not feeble-minded, but has extremely poor learning capacity with poor judgment in a practical task, with, however, good ability to appreciate relationships in ordinary social situations."

Her conduct grew steadily worse, and at last, after many outbreaks, she was transferred to the Girls' Industrial School. At 16 years of age her Binet score was 8 years 6 months, I.Q. 68, and on the Goodenough Drawing Test, 9 years 3 months.

At the delinquent institution she continued her misbehavior. She participated in fights, fomented riots, and was

a constant source of disturbance. After a particularly disorderly episode, when she and another girl climbed on the roof and refused to descend, she was sent to the City and County Jail. From there she was transferred to the Emergency Hospital for observation. She was reported as silly and childish in manner but enjoyed very much the attention from the doctor, for whom she developed considerable affection. She had had no heterosexual experiences, but had indulged in homosexual practices. She had been admitted to the hospital with the tentative diagnosis of "manic depressive psychosis, mild type." From there she was committed to the Territorial Hospital for Insane as a psychopath, and she was finally dismissed from there with the rather ambiguous diagnostic label "psychopathic personality without psychosis."

Her further history included many attempts at work placement (in three of which she stayed only four days), a half-hearted attempt at suicide by cutting her wrist, study by a psychiatric social worker with ineffectual plans for her adjustment, a brief stay at the Feeble-minded Home (committed as a "social defective"), a taxi-dancing engagement, and finally marriage to a soldier who deserted her after two months. Since that time she has supported herself by taxi-dancing and, it is suspected, casual prostitution. However, since every social agency and institution has had her under its care without success, no one cares to inquire too closely into Julia's present status. The diagnosis should be "constitutional inferior, egocentric type, rejected by social workers." The fact that she was sterilized is, perhaps, one reason why community agencies are no longer interested in her.

Another interesting problem was the daughter of a prominent lawyer who had unusual ideas on the edu-

cation and upbringing of children. He had treated this girl in all ways as if she were an adult, discussing subjects with her quite freely, answering all her questions frankly and truthfully, and allowing her to make her own decisions without let or hindrance from himself. At that time (25 years ago) such "progressive" views on child treatment were hardly in fashion. It would be easy to attribute the girl's social difficulties to mistakes in her early training, but this is too simple an explanation. She should be regarded as an extremely egocentric individual, precocious in mentality but lacking in inhibitory power due to a too complete amnesia for unpleasant experiences.

At 12 years of age she was a clever child, very widely read for her age, well informed with regard to sex and its functions, an entertaining, vivacious conversationalist, but, in respect to ordinary social conformity, entirely unstable. Her vocabulary was extraordinary, and her score in the Stanford-Binet was excellent, the mental age being 18 years, I.Q. 150. With such a fine performance, her comparative failure in the Maze was most significant. She passed only at a 9-year level, I.Q. 75.

Unfortunately, this poor record in the performance test was more indicative of her actual level of social sufficiency. She had been in four private schools for girls, only to be expelled from each in turn, either for incorrigibility or for occasional stealing. Up to that time she had not stolen money but appropriated to her own use anything else that she fancied—schoolbooks, pens, clothing, umbrellas, rubbers, and so on. She showed neither shame nor compunction, and she did not even bother to lie about her peculations. She was a most egocentric individual, her sole consideration with regard to others being, of what use could they be to her? Any opposition or

constraint was brushed aside, and any appeal based on consideration for the feelings of others she treated as absurd. She showed little affection for her father, who, needless to say, was most distressed over her behavior and blamed himself and his educational experiments for all these untoward results. But the structuring of this child's personality, as Healy would term it, contained flaws which had a constitutional basis, and her conduct developed as much in spite of, as because of, her early training. Enough evidence has since been collected to show that with children of different natures such a system of education has been highly successful.

The third case exhibited a most remarkable irregularity of mental development, though his average level of mentality was so low that he must be considered constitutionally inferior. He was brought to the clinic in Melbourne by his parents. He was a bright-appearing, physically overactive type of child who had hardly spoken at all until 6 years of age; but now at 8 years he was quite voluble. He was extremely restless and needed constant watching or he would run aimlessly away. The only time that his attention could be fixated for any length of time was when calendars were discussed. It was found that he could give not only the day of the week that any date had fallen on in the past two years, but could also give a most detailed account of all the events, trivial or otherwise, that had happened on that day. Where it was possible to verify his story, it was quite correct. For example, he was asked at random, "What day was the 4th of October?" (of the year before). He answered without hesitation, "Oh, that was Thursday, and Father took me for a trolley ride to the park, and he lost his tobacco pouch, so on the way back we called at the tobacconist's

shop on Rundle Street and Father bought a new one. And when we got home we found Auntie Mary had come down from the country, and I had to give up my room and sleep on the couch in Father's study"—and so on, until practically all the smallest happenings in the day's doings were recited.

The parents were asked if the child displayed evidence of any other interests, and it was discovered that he had shown some slight concern with maps and plans. It was therefore recommended that no notice at all be taken of his ability to remember dates and events and that he be encouraged to broaden his geographical interest, using maps as a starting point. Two years later he was again brought to the clinic. In the meantime he had learned to read and had developed such a topographical craze that his favorite stunt was to take maps of any of the continents and name from memory every town, river, and coastal feature in order as they appeared on the coastal periphery.

Obviously, this memory stunt had to be discouraged, and it was suggested that his interest might be still further extended by making facts and information the goal of his efforts. The psychoclinician did not see him again for three years. Then the boy's first question was, "Where did you come from?" "From Vineland, New Jersey," was the reply. "Oh, yes, Vineland," was his comment; "height above sea level 86 feet, population 13,000."

He had now reached the stage at which every town marked on a map had to be looked up in a gazetteer and its population and altitude memorized, with the consequence that since there were then no "Information, please" programs, he was possessed of an immense fund of perfectly useless information.

Both these cases came early in the author's clinical experience, but it is doubtful whether any better recommendations could be made now. With regard to the girl, considerably more attention might be paid to her performance in the Maze and an endeavor made to ascribe the reasons for her failure. The response to other performance tests might also be considered, to see whether she was predominantly a verbalist. Using her deficiencies in the Maze as a starting point, one could then attempt to make a few cracks in her overweening, egotistical self-confidence and thus attempt with her a revaluation of her conduct and its consequences. Another suggestion would be to place her with a grown-up family in the country, where intellectual "showing off" would be wasted and where an entirely different standard or set of values to those she was accustomed to in her own home would be prevalent. But these would be merely tentative treatments, and the task of shifting her attitude from such a deeply rooted egocentrism would be difficult.

The boy, also, if he were presented at the clinic today, would be given more intensive study. In any case, the psychologist would hardly be content with planting isolated suggestions and then leaving them to such a remarkable and haphazard fruition. The experienced clinician would have recognized, also, that the parents, in compensation for having such a poorly adjusted child, were probably full of secret pride over their son's prodigies of memory and no doubt encouraged the lad in his one-sided interests. A new environmental setup was certainly indicated, though the change could hardly have been expected to make the child socially adaptable. In short, study of each case would now be more complete, but it is still doubtful whether either child was accessible

to treatment. Both were finally committed to institutions, the girl to a corrective school and the boy to a home for the feeble-minded.

References for Chapter X

Burt, Cyril, *The Subnormal Mind,* Oxford University Press, London, 1935

Hollingworth, Leta A., *The Psychology of Subnormal Children,* The Macmillan Company, New York, 1920

Mateer, Florence, *The Unstable Child,* D. Appleton-Century Company, Inc., New York, 1924

Morgan, John J. B., *The Psychology of Abnormal People with Educational Applications,* Longmans, Green & Company, New York, 1928

Sayles, Mary, *The Problem Child in School,* Joint Committee on Methods of Preventing Delinquency, New York, 1925

Scheidemann, Norma V., *The Psychology of Exceptional Children,* Houghton Mifflin Company, Boston, 1931

Thom, Douglas A., *Everyday Problems of the Everyday Child,* D. Appleton-Century Company, Inc., New York, 1927

Wells, F. L., *Mental Adjustments,* D. Appleton-Century Company, Inc., New York, 1917

CHAPTER XI

Some Specific Clinical Problems

In addition to the abnormal constitutional types described in Chapter X, there are certain individuals commonly seen at a psychological clinic who do not bear any specific diagnostic label and therefore are classified by the kind of problem they present. These problems have no particular antisocial reference, yet they represent conduct deviations serious enough to be brought to the psychologist for advice. Among the most common and the most serious of these deviations are masturbation, enuresis, and stuttering, while those of less serious import are nail-biting, thumb-sucking, unusual fears, and the like. Some writers have gone so far as to group all of these and others into one of two classifications, personality problems or conduct problems, or as either direct or indirect primary behavior problems.

The value of such classificatory schemes is seriously to be doubted. Louttit states, even after having presented such a schematic division, that "only children with problems can be classified." [1] The reader will look in vain in this volume for any crystallization of experience into set rules for dealing with these problems, since the author believes that each case must be treated not from the standpoint of the complaint but from that of the individual concerned.

[1] Louttit, C. M., *Clinical Psychology,* Harper & Brothers, New York, 1936.

The Problem of Masturbation. We may take as an example the problem of masturbation. It may be easily described as regards form of activity, frequency, and seriousness. So far as is known, however, there are few, if any, set measures for its treatment, although it is sometimes assumed that specific remedial measures can be invoked. Sayles,[2] for example, devotes a chapter of her book to the subject under the heading "Mistaken Ideas on Sex," which resolves itself into a plea for better parental enlightenment to dissipate old-fashioned ideas on the supposedly morbid effects of the habit. As to the problem itself, she naïvely advises parents to help themselves "by seeking light upon their problems from the highest modern authorities." One wishes that these authorities would share their light instead of keeping it hidden under some psychiatric or psychological bushel.

As a matter of fact, the approach to the problem of masturbation is no different to that employed in treating any other conduct disorder. There must first be an intensive study of the personality of the child, with some specific attention, of course, to sex ideas and practices. Only after this study has been made will it be possible to decide how serious the problem is and, in fact, whether it is to be regarded as a problem at all. Inquiries among men have given various data as to its prevalence, results ranging from 92 per cent admitting the practice (Peck and Wells) to much lower percentages found by Exner among college men (61.5 in Western colleges, 34.7 in New York City). The data collected by Katherine Davis[3]

[2] Sayles, Mary Buell, *The Problem Child at Home,* Commonwealth Fund, New York, 1928.

[3] For this data see Chapter VI of *Factors in the Sex Life of Twenty-two Hundred Women,* by Katherine Bement Davis, Harper & Brothers, New York, 1929.

(1080 cases) gave 60.3 per cent of college women admitting the practice. Among the group practicing at the time of her study, 62 per cent thought masturbation had either no effect or a good effect as against 32.4 per cent who considered its effects bad. Both from the standpoint of common incidence and supposed effects, the habit is by no means as serious as was once thought. The question of its harmfulness is bound up not only with the frequency of the act but with the personality of the individual. There can be no doubt that in many cases the results of the habit are unfortunate, exaggerating self-consciousness, or leading to feelings of inferiority or a general lowering of self-esteem.

Apart from demonstrating individual effects, much of the inquiry on the subject may be of academic value only. It may, for example, be useful to find out whether this form of sex activity was instituted as the result of instruction by others or was a matter of self-discovery, but it has little or no bearing on treatment. It may also be instructive to inquire into the level of the child's sex knowledge, but we soon realize that the habit may be linked up either with knowing too much or with knowing too little about sex. In the former case little or nothing can be done about the matter, and in the latter case there is no assurance that fuller sex education will affect the practice at all. Equally interesting may be the fact that the individual feels considerable remorse after the act, but the therapeutic significance of this discovery may be nil. Afterregrets are notoriously ineffective as regards breaking a habit. The condition or problem must be dealt with as an established fact. Of prophylactic value, however, may be the discovery of the usual exciting cause, whether it be the reading of stimulating literature, being

with bad companions, watching the sex play of animals, seeing figures and pictures in the nude, lascivious imaginings, or daydreaming about sex. Obviously, we cannot remove all these erotic stimuli from the environment, but we can work for a better mental adjustment towards them. Even daydreaming, so often condemned in literature, is often a useful exercise of the imagination which may be important in the life and the artistic development of the individual, even if it does issue occasionally in autoeroticism. As far as the parent is concerned, there is little he can do about the matter, even after consultation with "the highest modern authorities."

Therapeutic Measures. Outside of general mental hygiene, it is difficult to suggest specific methods of approach to the problem. If the child is extremely worried and anxious, the psychologist must decide whether the important point is to lessen the worry or diminish the habit, or both. Individuals differ so much in their attitudes on this matter. Some regard it as a form of physical relief or gratification accompanied by pleasurable imaginings and take it in their stride, so to speak, without any particular anxiety as to its effects. Should the clinician make it his aim in other cases to induce this nonchalant attitude, or should he aim at helping the person to attain complete sexual continence? The answer depends on the individual, particularly in regard to the degree in which the habit is interfering with social growth and adjustment in other directions.

If the individual really desires to get rid of masturbation, then the advice that needs to be given is along the lines that must apply to habit breaking in general, whether it be the cessation of smoking, drinking, stealing, or any other practice. Avoid the situations which provide

the specific stimulation, think as little as possible about the matter, do less worrying, lessen the relevancy of the situation by paying more attention to other well-developed interests—these are the well-known formulae which apply not only to masturbation but to any other situation in which a break in an accustomed activity is desired. If the object is complete discontinuance, then there must be no lapses or occasional indulgences. But the specific advice that is frequently given the individual—to make himself tired with physical exercise and games, then he will not think of the matter—is of extremely doubtful value. If interest can be diverted as easily as this, the inclination is not very strong.

Clinical Approach. The clinical psychologist called upon to deal with this activity will naturally avail himself of every opportunity to get into close rapport with his subject. The very fact that the matter can be discussed impersonally will of itself rob the situation of secrecy and diminish its emotional effects. It goes without saying that the clinician will attempt to obtain clear ideas as to the remote as well as the immediate causes affecting the activity. He will certainly not begin giving therapeutic suggestions until he has obtained some insight into the particular problem; but there is no royal road to attaining that insight.

As regards reports of the habit in very young children, teachers and parents should be instructed that some casual handling of the genitalia is very common, but that it is by no means to be regarded as masturbation. Without too much fuss, this matter can be dealt with in exactly the same way as many other minor activities or personal habits which society frowns upon. There is no need to go to the unfortunate extreme of instilling in the child's

mind the idea that the parts themselves are shameful or disgusting. Other prophylactic measures consist in insisting that the child get up at a regular time and seeing that his hour of retiring is not too early, so that there is no danger of lying awake for long periods. Ordinary precautions as to supervision are necessary, particularly of children playing together in pairs or in small groups where one sex is represented only by a single younger child. The supervision should be unobtrusive but present. If parents learned to take this precautionary measure, many unfortunate developments in sex history might be avoided. But these suggestions are preventive rather than curative.

The Problem of Enuresis. *Causative Theories.* Another problem which will frequently be brought to the attention of the clinical psychologist will be that of nocturnal enuresis, or bed-wetting. Here again understanding of the individual must come before treatment, for what is advised in one case may be unnecessary or unwise in another. If, as is so frequently the case, the child has a feeling of insecurity in family affection or is jealous of attention shown to a brother or a sister, the psychologist will certainly aim to bring these feelings into the open, so that the child's unrest may be diminished by free discussion of his complaints. Little can be done for the enuresis in such cases until the nervous irritation is removed. The problem of enuresis is, however, so common and is frequently so persistent that a longer discussion is indicated.

Nocturnal enuresis has essentially the same basis as that of incontinence in the daytime, namely, insufficient cortical control. The difficulty is to interpose a sufficient delay between the stimulus of bladder distension and mic-

turitive relief, so that the function will not appear under circumstances that are unpropitious or socially disadvantageous. In terms of the circular response theory, the matter of social disapproval must be represented in one arc of the circuit, so that inhibition, even to the degree of physical discomfort, can take place. Whatever weakens the strength of this inhibitory factor of social disapproval will weaken the whole circuit and prevent the effective canalization of the neural pathways involved. Hence the inhibition will not become so well learned or automatic that it will be operative under all circumstances, especially in the condition of near-unconsciousness that we call sleep.

After all, there is no essential difference between control of the bladder during sleep and the control of the limbs so as to avoid falling out of bed. This accident is comparatively frequent during childhood, and probably every person has at some time suffered this misadventure. Staying on the mattress or within the bedcovers must be learned just like anything else. When it is learned well enough so that a feeling of partial loss of support causes us to roll away from danger, then the self-protective activity is automatic and we no longer—except possibly under exceptional circumstances, such as a vivid dream—fall out of bed. Otherwise, there is a degree of sensory alertness evident even in sleep.

Similarly, control of the bladder is a learned reaction of the same kind, except that parental or social disapproval is substituted for the hurtful effects of falling on the floor. In some cases the penalty is counteracted or for various reasons has little effect, so that the establishment of the inhibition takes longer. Even when established, it, too, may suffer a lapse under the influence of

a dream. This does not mean a regression to infancy or even the consummation of some unconscious desire. In this discussion it is well to remember that there is no "habit of bed-wetting," but that nocturnal continence is the habit and enuresis is the failure to establish the habit.

We have already said that whatever tends to weaken that part of the circuit of response which is concerned with social or parental disapproval of diurnal enuresis should also operate with regard to the nocturnal condition. If this opinion is sound, we should expect to find a relation between these two conditions—the child who is slow to learn conscious restraint should be similarly slow to acquire control in sleep. The best available evidence on this point is presented by Holt and Howland[4] in their study of 591 cases. They found that 64 per cent of these children were both diurnal and nocturnal enuretics, while only 2 per cent were diurnal. The fact that 34 per cent were nocturnal only was of little significance if related to age, as evidently there is a stage when all enuretics are both diurnal and nocturnal, daytime control being achieved first. The fact that in almost two thirds of the cases enuresis persisted under conscious conditions is surely significant.

Gerard's Studies. This description of the neurological mechanism of urinary continence in terms of circular responses allows for other explanations, psychoanalytic or otherwise. With the young child, parental rather than social disapproval is the conditioning factor. Hence we find antagonism between parent and child in the etiology of some cases.

[4] Holt, L. Emmett, and Howland, John, *Diseases of Infancy and Childhood,* 9th edition, D. Appleton-Century Company, Inc., New York, 1929.

Out of the 72 cases studied by Gerard,[5] 8 children were negativistic in conduct and antagonistic to parents. Five mothers, says this author, "openly rejected" their children, although the antagonism reported indicated as much the children's rejection of the parents as vice versa. (Social workers and psychiatrists sometimes need to be reminded that rejection may be a two-way affair.) Forty-six of Gerard's cases showed neurotic patterns of behavior, and she regards the enuresis in these cases as merely one symptom of the broader emotional maladjustment.

Her description of the social attitudes in these cases is interesting. She believes that enuresis may be a substitute for masturbation, the role of the sexes being reversed, the boys associating it with passivity, the girls with fantasies of activity. Freud's idea is that enuresis is essentially a pollution, the girls conceiving of the sex act as urination and the boys connecting it with menstruation. In accordance with these theories, Gerard finds the male enuretics to be passive, retiring, self-deprecatory—supposedly feminine characteristics—while the girls were leaders and were active, independent, well-behaved, and ambitious.

The author's experience does not agree with Gerard's in this characterization of enuretics, but considers her observations of the parents more significant. Gerard notes that the fathers of the boys were critical and overambitious for their sons, while the majority of the mothers were rejecting persons, "on the whole unconscious of their rejection but evincing this attitude by oversolicitude, fear of injury to the patient." Incidentally, one

[5] Gerard, Margaret W., "Enuresis—A Study in Etiology," *American Journal of Orthopsychiatry*, January, 1939.

may remark the conveniences of psychoanalytic argument, lack of affection or oversolicitude being equally symptomatic of "rejection." In spite of this convenient but illogical interpretation, we may assume that the parent-child relationship was in most cases disturbed, the fathers of the girls in the study being recorded as alternately affectionate and punitive. Apparently the children were having difficulty in making parental approval count in any adaptive situation, a fact that supports the view given above of the causation of enuresis.

With regard to the social adjustments of enuretics, Michaels and Goodman [6] have this to say:

> Both from our studies and from our clinical experience, there seems to be no doubt as to the great importance of enuresis as one of the most significant indications of disharmony within the personality.

Relation to Delinquency. Hirsch [7] has presented valuable data bearing on the relationship between delinquency and the persistence of enuresis. Of 118 delinquents, he found 82 per cent to be enuretics (continuance beyond 3 years). This did not differ materially from the incidence among a group of 58 normals, but the significant difference was in regard to the age of cessation. In less than 7 per cent of normals did the condition persist beyond 11 years of age, while nearly 95 per cent of the delinquents were enuretics beyond that age. He notes either emotional immaturity, hypersuggestibility, insta-

[6] Michaels, Joseph J., and Goodman, Sylvia E., "The Incidence of Enuresis and Age of Cessation in 1000 Neuropsychiatric Patients: With a Discussion of the Relationship Between Enuresis and Delinquency," *American Journal of Orthopsychiatry,* January, 1939.

[7] Hirsch, N. D. M., *Dynamic Causes of Juvenile Crime,* Sci-Art Publishers, Cambridge, Mass., 1937.

bility, or feelings of insecurity and inferiority in 103 out of 118 cases studied.

Michaels and Goodman's description of the enuretic falls also in line with the theory that causation is related to difficulty in making social and parental approval part of the dynamics of conduct. They say:

> Persistent enuresis is the prototype of deficient inhibitory tendencies, a weak ego, and a reflection of an ill-balanced person of the types belonging to the psychopathic personality, the delinquent, and the psychiatric behavior problem.

It is also significant that they find nail-biting, temper tantrums, and thumb-sucking—all activities which persist in the face of parental disapproval—commonly associated with enuresis. The delinquent and the constitutional inferior of the aggressive type (psychopathic personality), as we saw in Chapter X, disregard social consequences. Thus the normal circuit of response in regard to bladder control is difficult for them to achieve.

Treatment of Enuresis: The Mowrer Device. Since bed-wetting is a specific activity connected with a fundamental deficiency in personal adjustment to persons in parental or authoritative positions, it follows that treatment may be either specific or general, or both, with the most effective attack aimed at the basic condition. Specific treatment includes cutting down the child's intake of fluids in the evening, waking him up at set intervals, usually at ten P.M. and two A.M., changing diet to increase the salty content, and, of course, removal by medical treatment of contributory physical conditions. On the other hand, the factor of social approval for continence may be stressed by such devices as star charts recording dry periods, with a system of rewards.

The more general approach will be in the direction of building up satisfactory parent-child relationships, where possible. If the parents' attitude is to blame for the child's feeling of insecurity, the psychologist should direct every effort towards modifying it. If, on the other hand, by continuing bed-wetting it seems that the child is definitely making a bid for attention, as little notice as possible should be taken of the occurrence beyond making the child responsible for the care of his own bed linen.

Among interesting measures employed in dealing with enuresis, mention should be made of an electric pad which wakes the child up immediately urination begins. This method was described by the Mowrers,[8] who experimented with 30 cases and recommended the use of the device until seven consecutive dry nights had occurred. The results, as stated by the authors, were: "the elimination of enuresis, to the criterion stated above, has been achieved in all cases, the maximum time to accomplish this in any child being two months." In a criticism of the Mowrer method, Michaels seems to be at a loss to understand this improvement, as it apparently conflicts with the view that the parent-child relationship is fundamental to the enuresis; as the electric device cures without changing that relation, a beautiful theory is in danger of being upset. If the Mowrer results are permanent and no other unfavorable symptoms are substituted, the long and tedious psychoanalytic treatment sometimes applied to enuretics would seem to be unnecessary, and a carefully built-up theory of causation, which includes as causative factors "sexual impulses and feelings, repressed

[8] Mowrer, O. H., and Mowrer, Millie Mae, "Enuresis—A Method for Its Study and Treatment," *American Journal of Orthopsychiatry*, July, 1938.

love, and feminine wishes to have a baby, but also the aggressive, masculine, and even destructive impulses," [9] falls to the ground.

From the point of view presented here, the Mowrer results cause no especial difficulty of explanation. Failing the incorporation of the inhibitory factor of parental disapproval within the circuit of response during sleep, the operation of the device gives this factor a chance to appear in the child's conscious awakened period. The child's recognition of the room as home as soon as he is roused from sleep, with the knowledge of the parents' proximity, will be sufficient to bring parental disapproval into the circuit and make it a potent factor in the situation. In cases where there is pronounced antagonism between parent and child, it is quite likely that even the Mowrer apparatus would fail to effect a cure. The threat to the child of parental disapprobation is in these cases of no particular relevancy. Where cure results from the operation of an electric pad, it would be idle to rely any longer on psychoanalytic causative theories, such as conflicts as to sex matters in the mind of the child.

The Mowrer device undoubtedly sets up a conditioned response, so that the distension of the bladder, instead of being the stimulus for urination, becomes attached to awakening and, as the authors state:

> Soon this connection should become sufficiently well established to cause the awakening response and the contraction of the bladder to "come forward" in time and occur actually in advance of the onset of urination, instead of afterwards.[10]

[9] See the 1938 Symposium on the Psychoanalysis of an Enuretic Girl, *American Journal of Orthopsychiatry*, July, 1938.

[10] Mowrer and Mowrer, *loc. cit.*, p. 446.

But even this explanation of the success of the Mowrer device does not mean that the weakening of social or parental disapproval is not the prime factor. All that has happened is that in the circuit of response one inhibitory factor has been displaced by another. Instead of parental disapproval, awakening by distention of the bladder is the inhibitory condition. That now becomes the penalty attached to bed-wetting, and its avoidance brings about in time the requisite sphincter control. But though the psychoanalyst's explanation may be both devious and overelaborate, the fact seems to be that the parent-child relation is in many cases disturbed and that this may be a decided factor in the "disharmony of personality" which the psychiatrist observes so frequently in the enuretic child. Whether the enuresis is cured or not, and no matter what the effective remedy may be, there is still the necessity of working on the more fundamental problem of the mental hygiene of both parent and child.

Stuttering. *Incidence and Immediate Causes.* One of the most difficult and puzzling problems that confronts the clinical psychologist is the problem of stuttering. Occasionally a child is brought to the clinic with a history of delayed speech, and in many cases this is found to be part of a general physical and mental retardation. The problem of stuttering—or stammering, as it may also be called—is, however, in a different category as regards intelligence.

In a study by Travis [11] of 75 cases, 63 per cent were found to be above 100 I.Q. as regards mental level. This accords with the experience of the writer, most of whose cases have been of better than average intelligence.

[11] Travis, Lee E., *Speech Pathology,* D. Appleton-Century Company, Inc., New York, 1931.

Louttit, however, quotes West's data, which indicated that only 41 per cent of his large group of over 4000 cases were above 100 I.Q.; this would be indicative of an average distribution as regards mentality. The discrepancy in experience may be due to the fact that the better-type cases may be brought to clinic attention or occasionally come themselves for advice. In the second place, the use of the label "stutterer" is often grossly misapplied. The White House Conference Committee on the Defective in Speech (1931) reported the incidence of stuttering as 22 per cent, whereas it is probably not more than 1 per cent (Louttit's figure [12]). Wallin,[13] in a survey of one school system, found "that 2.8 per cent of children in the regular grades were subject to speech defects," while the percentage of mild and severe cases of stuttering in this group constituted .7 per cent.

The most significant observations with regard to stuttering seem to be that the neuromuscular inco-ordination in the vocal organs seem to be accompanied by other muscular hypertensions and serious emotional disturbances, some of which are due to the stuttering itself. In quite a number of cases there is a sense of social insecurity or inferiority, and in children there is an inability to secure the parents' confidence and approval. Adult stutterers report fear of meeting social superiors or persons in a position of authority over them, shyness in the presence of strangers, and a constant fear that they will stutter, making a vicious circle. They are afraid they will stutter and they stutter because they are afraid—a good example of a circular response. There are some rather

[12] Louttit, C. M., *loc. cit.*, pp. 434 ff.

[13] Wallin, J. E. W., Jr., *Clinical and Abnormal Psychology,* Houghton Mifflin Company, Boston, 1927.

noteworthy facts with regard to occasions when the person is free from the affliction. Stutterers can often sing, whisper, deliver a speech, take part in a play, swear or talk to themselves without the difficulty appearing. Through the experiments of Cannon and later of Bard,[14] who removed the brains of cats rights down to the thalamic and hypothalamic levels so as to cut off cortical control while leaving the visceral connections intact, "sham" rages could be induced in the animals by ordinary physical stimuli. Normally the control of the cortex over the thalamic area is only partial, for under conditions of sudden fright, or the strain of some long-continued hazard, as in trench warfare, men "go all to pieces." Our efforts toward self-control are strengthened by the recognition that any display of the physical or mental symptoms of cowardice ordinarily meet with extreme social disapproval.

Neurological Explanation. Based on facts such as these, Blanton and Blanton have advanced a neurological explanation of stuttering:

> If the control of the cortex over the thalamus is interfered with by fear, or anxiety, or by emotional fixations, then the primitive patterns of the nervous system in the thalamus and basal ganglia below the thalamus assert themselves and interfere with normal activity and especially with speech.[15]

The question at once arises: Why should this emotional tension "interfere especially with speech"? Again we may invoke in explanation the theory of the circular

[14] Bard, Philip, "The Neuro-humoral Basis of Emotional Reactions," Chap. 12 in *Foundations of Experimental Psychology* (edited by C. A. Murchison), Clark University Press, Worcester, Mass., 1929.

[15] Blanton, Smiley, and Blanton, Margaret, *For Stutterers,* D. Appleton-Century Company, Inc., New York, 1936, p. 13.

response. Speech is decidedly a most important social activity, and the infant's first attempts are intimately associated with parental or social approval. When this is lacking, or when for any reason the child has a long-continued fear of the loss of parental affection and confidence, the circuit is weakened and he reverts to the first stages of the learning process, in which there is repetitive vocalization, the simplest circular responses of beginning speech. As soon as the individual finds himself in a situation freed from any submissive relationship either to parents or parent-substitutes in society, the speech difficulty disappears. Thus singing, whispering, or swearing, which are not ordinary methods of oral communication, form their own reactive circuits in which parental approval is not a factor.

Other Causative Theories. Anything else that interferes with the establishment of the circuit of response will also have an important effect. Emotional tensions may be only one of the difficulties. Hence Travis may be correct in attributing the difficulty to lack of cerebral dominance, which seems necessary to the proper co-ordination of the speech mechanism. We already know that intense emotional strain or extreme nervousness can interfere with speech so that the voice changes its quality, or that we may be so frightened as to be unable to speak. The combination of emotional tension through unsatisfactory parent-child relationships with incomplete cerebral dominance may account for the stuttering.

There are, of course, many other explanatory theories with regard to stuttering. These range from the extreme physiological theory of Robbins, who holds that it is caused by the sudden emotional rise of blood pressure in the brain causing congestion, to the psychoanalytic

explanation advanced by Coriat, who relates it to the oral eroticism of childhood and the persistence of the lip movements of suckling.[16] Fletcher seems to have made the best characterization of stuttering, both from the causative and remedial standpoints. He believes that:

> It should be diagnosed and described, as well as treated, as a morbidity of social consciousness, a hypersensitivity of social attitude, a pathological social response. The marked elements in this social response include, typically, fear, anxiety, the feeling of inferiority, and kindred attitudes arising out of a state of mind engendered by the realization of the necessity to meet, through speech, certain social requirements. The memory of previous failures to meet similar requirements serves to "set off" these reactions.[17]

Fletcher's view does not run counter to Blanton's theory, but it may be suggested that instead of the psychoanalytic explanation, we may adopt the idea of regression to infantile circuits of response under the strain of anxiety and the other emotional attitudes listed by Fletcher.

The school situation unfortunately reproduces very unfavorable conditions for the stuttering child. In this connection Fletcher writes:

> The social relations of inferiority, of subjection to authority, of scrutiny and criticism, which characterize the situation of the child in school, are precisely the ones which have been found to be the most potent excitants of the emotional and motor reactions of stuttering.

[16] See Robbins, Samuel D., *Stammering and Its Treatment,* Boston Stammerers' Institute, 1926; and Coriat, I. H., *Stammering: A Psychoanalytic Interpretation,* Nervous and Mental Diseases Monograph, No. 14, 1928, pp. 405-415.

[17] Fletcher, John Madison, *The Problem of Stuttering,* Longmans, Green & Company, New York, 1928.

Fletcher also notes that facetiousness, because it obviates social sensitivity, and similarly the influence of alcohol, may temporarily overcome the difficulty. Swearing also is free from the speech defect because it represents a self-assertive mood.

Treatment of the Problem. No matter what causative theory is adopted, the problem is a difficult one for treatment. If emotional tension due to insecurity in family or social relationships seems to be apparent, then every effort will naturally be directed towards removing that tension. If the antagonistic or indifferent attitude is too pronounced, then removal of the child from the home may be necessary. Some therapists think that speech drills should be avoided, as directing the child's attention to the condition—an unfavorable result. Next to the home, the school situation is likely to provide the greatest sources of tension, and conferences with child and teacher may effect an improvement. In many cases this is not possible under the ordinary school conditions, so Fletcher approves a plan advocated by both Kenyon and Gesell to segregate speech defectives in special classes, hospital schools, or camps. This suggestion has double merit in that a complete environmental change will be effected and at the same time, by grouping the child with his equals rather than his superiors in expression, he will lose his fear of social competition and failure. Needless to say, the direction of these classes must be in the hands of specially trained teachers who, through easy discipline, interesting class work, recreation, and a sympathetic attitude, will lessen the emotional strain of school experiences.

The author's experience agrees with that of Fletcher, who confesses that he has been unsuccessful, in spite of

many years of effort, in finding an effective *clinical* treatment of stuttering in which correct or unimpeded speech has been taught. There are many useful suggestions as to breath control, visual imagery, and so on, but the fundamental aim must be to remove the causes of the emotional maladjustment.

References for Chapter XI

Ackerson, Luton, *Children's Behavior Problems,* University of Chicago Press, 1931

Ackerson, Luton, and Highlander, M., "The Relation of Enuresis to Intelligence, Behavior and Personality Problems," *Psychological Clinic,* Vol. 17, 1928

Blanton, Smiley, and Blanton, Margaret, *For Stutterers,* D. Appleton-Century Company, Inc., New York, 1936

——, *Speech Training for Children,* D. Appleton-Century Company, Inc., New York, 1919

Davis, Katherine Bement, "A Study of Certain Auto-Erotic Practices," *Mental Hygiene,* July, 1924, and January, 1925

Dickinson, R. L., and Beam, Lura, *The Single Woman,* William Wood & Company, Baltimore, 1933

Freud, Sigmund, *Three Contributions to the Theory of Sex,* Nervous & Mental Disease Publishing Company, Washington, 1930

Hamilton, G. V., *A Research in Marriage,* Albert & Charles Boni, Inc., New York, 1929

Healy, W., and Others, *Reconstructing Behavior in Youth,* Alfred A. Knopf, New York, 1929

Kanner, Leo, *Child Psychiatry,* Charles C. Thomas, Springfield, Mass., 1935

Malamud, W., and Palmer, G., "The Role Played by Masturbation in the Causation of Mental Disturbances," *Journal of Nervous and Mental Diseases,* Vol. 76, 1932

Michaels, J. J., "Incidence of Enuresis and Age of Cessation in One Hundred Delinquents and One Hundred Sibling Controls," *American Journal of Orthopsychiatry,* Vol. 8, 1938

Orton, S. T., "Studies in Stuttering," *Archives of Neurology and Psychiatry,* Vol. 14, 1925

Travis, Lee Edward, *Speech Pathology,* D. Appleton-Century Company, Inc., New York, 1931

——, "Speech Pathology" in *Handbook of Child Psychology* (edited by C. A. Murchison), Clark University Press, Worcester, Mass., 1932

Wallin, J. E. W., *Speech Defective Children in a Large School System,* Miami University Bulletins, Series 25, No. 4, 1926

CHAPTER XII

Predisposing Conditions in Delinquency

Children's Suggestibility. A large part of the work of the psychological clinic will be taken up with delinquent and predelinquent problems. One of the advantages pertaining to the operation of a general clinic is that an opportunity is afforded to see children in school and to observe the incidence of antisocial tendencies which, if unchecked, will finally result in delinquency or crime. The younger the child and the milder the misconduct, the more hope there is that remedial measures may be successful. This does not mean, however, that younger children are necessarily more impressionable or suggestible than older ones, but simply that foster-home placement, change of school, or other environmental modifications are more easily carried out while the child is still dependent and under control. Later on, his movements are less restricted, he has greater liberty of choice as regards companions, more fixed ideas, and, generally speaking, far more opportunities for going his own way.

There can be no reasonable doubt of the efficacy of early training, but whether it can be attributed to greater general suggestibility in childhood is open to serious question. That youth is malleable is upheld by various well-known apothegms. "Train up a child in the way he should go, and when he is old he will not depart from it" is one of the most quoted. Another is "As the twig is bent, so the tree inclines." Both these maxims imply that train-

ing or bending the twig is easily possible, but this the psychologist is compelled to doubt. Much depends on the nature of the child—and some children are remarkably resistant to training. In other terms, the twig is not only sentient but dynamic, and it may have its own notions as to the direction in which it wants to grow.

The emphasis that has been laid on the strength and determining character of nurtural influences probably represents the swing of the pendulum of opinion away from the former stress on the all-importance of heredity and constitutional factors in social maladjustment. The reasonable view, as is so often the case, is to be found somewhere between the extremes. It is impossible to hold that either set of factors, the environmental or the constitutional, are always dominant. Some personalities are more plastic than others and take the impress of associations much more clearly, while self-initiated and self-regulated tendencies are more characteristic of other children. Perhaps a better way of expressing this difference would be to say that for some individuals people are more powerful or relevant stimuli than things or conditions, and that therefore they respond more readily to suggestions. It is noteworthy that all the recent, more scientific studies of the influence of environment and heredity illustrate the bipolar nature of the dynamics of delinquency.

This view finds considerable support from the observations of the social psychologists:

> The pliable child, the stubborn child, the sunny child, the child of violent temper or dark resentments are probably not simply the products of different home training, but of home conditions acting upon organisms of different constitution in terms of glandular and neurophysiological make-up. Individual

differences in irritability, amount of activity, the tendency to laugh or cry have been accurately recorded in the first five weeks of life.[1]

Typical Periods of Trainability. We may also note the fact that individual differences in children tend to be more easily appreciated when expression becomes fuller and more variable through the acquisition of speech. What are the most potent influences in childhood and to what extent the child is father to the man, we can only judge when there are available urgently needed longitudinal studies of individuals from early infancy to maturity and beyond. Such studies are necessary for supplementing and correcting the cross-sectional observations of various age-level groups.

Though admitting the unsatisfactory nature of the experimental evidence, the Murphys venture to characterize as follows the typical behavior of children as regards aggression and resistance:

1. Period of submissive dependency. Ages 1 to 2 years—used by parents for rigid training in personal habits, etc.
2. Period of negativism. Ages 3 to 4 years—beginning of conflict between child's independence and parents' wishes.
3. Ambivalent period. Ages 5 to 12 years—a time of overt compliance and inner conflict with adult patterns of behavior.
4. Period of overt rebellion or adolescent negativism, then acceptance. Ages 12 to 20 years.[2]

The last two periods are those with which this chapter is most concerned. Old age appears to be associated with

[1] Murphy, Gardner; Murphy, L. B.; and Newcomb, T. M., *Experimental Social Psychology,* Harper & Brothers, New York, 1937, p. 415. Reprinted by permission of Harper & Brothers.

[2] *Loc. cit.,* p. 506.

a decline in aggressiveness and in many instances with an increased tolerance. This, perhaps, may be ascribed to a philosophic acceptance of the inevitable. The indulgent attitude of many grandparents to their grandchildren may be due to a tacit realization of the failure of their best-intentioned efforts to determine the trends of development in their own children.

Those who are in close contact with small children are not usually very optimistic regarding the pliability of the young child, and they bear witness to the self-will, independence, and even arrogance that he will at times exhibit. Various studies have been made by Goodenough (1929), D. M. Levy and Tulchin (1923), and Reynolds (1928) on the resistance shown by young children in the testing situation, and these seem to agree that negativism or resistance appears to decrease with age. Nelson's study (1931) also showed that self-consciousness as a factor in resistance is very important and appears at an early age. On the whole, social pressure by groups seems to be more effective than individual influence, as witness the repressive, initiative-deadening, equalizing effect of prolonged residence in institutions.

Parental Influences. In considering this question of children's malleability, we should remember that the influences exerted by the parent on the very young child, especially during the dependent period, are very similar to those which operate in institution life. These influences are extremely constant and consistent in their nature and direction. It is a rather startling opinion, but one that can be fully justified, that the period from 1 to 3 years of life represents one that more nearly approaches institutionalization than any other. Except that the institution child is denied personal affection, his situation

is similar to that of the young child at home. There is the same regularity, the same authoritarian atmosphere, the same consistent pressure, and on the child's part the same lack of opportunity for initiative and independent effort. All this was, of course, much truer of what is called "the old-fashioned home"; but though the emphasis has changed, the constancy of influence remains. As a consequence, most children have to develop their own personalities in spite of their parents. If the child is of a plastic nature, he readily reflects this undiluted companionship and pressure from parents; if, on the other hand, he is more self-determined, he may become headstrong and aggressive. It is an interesting fact that purposeful conditioning is not always effective. Constant pressure at home may develop friction, irritation, and protest. Parsons' sons who grow up in complete rejection of their parents' religious beliefs and attitudes illustrate this point.

Lest we may seem to unduly stress opposition of forces, it should be noted that nature and nurture, while they sometimes conflict, frequently support each other. The child who is timid and dependent will make a special appeal to the affection of the overprotective, solicitous parent. This is shown by the excessive care and attention so frequently lavished on the mentally defective child in the family. On the other hand, the aggressive, domineering individual, though his parents frequently make attempts at repression, does not have these tendencies corrected but often makes up for his enforced subservience by bullying others weaker than himself.

Influence of Nurture on Delinquency. This discussion of conflicting tendencies has an important if not essential bearing on any consideration of the predisposing

conditions in delinquency. It is intended to illustrate the fact that the interpretation of causative factors is an extremely complex and difficult task. Certain studies have lent support to recent tendencies on the part of social workers and others to emphasize as major factors in juvenile crime such conditions as residence in "delinquency areas," broken homes, or any other of many unfavorable situations. It is necessary to point out again and again that nurtural factors cannot in themselves explain delinquency, but that social misconduct is always the result of the interaction of constitutional and environmental factors—the effect of certain circumstances upon a certain kind of personality. The student of clinical psychology also needs this warning. There is a likelihood that the use of lists of contributing factors such as is given later in this chapter may mislead the psychologist into thinking that with the uncovering in the individual case of certain commonly predisposing conditions, the delinquency is fully explained. Such lists are merely preliminary convenient guides to further investigation.

As a matter of fact, the analysis of the environmental factors is a great deal more difficult and complex than the determination of the psychological characteristics of the delinquent. Experience leads to the belief that there is rarely one major factor operative, but that delinquency is almost always due to a combination or constellation of factors. Consider, for example, the nurtural factors inherent in the situation of a Negro child of intelligent parents living in what may be considered a poor neighborhood. Here the conditions of race, the influence of parents, and the social environment are stated in the most general, undefined way. Yet we may have eight different combinations of these three conditions, such as a non-

Negro child, nonintelligent parents, good neighborhood, and so on. All these combinations may be found to be associated with individual cases of delinquency. When eight combinations are possible with these three variables, what number is possible when Burt states that he found no less than seventy different social conditions in relation to delinquency? The matter seems almost hopelessly complex.

The Murphys and Newcomb, for example, mention among others the following classifications of children as regards home conditions: children of working mothers, children of housekeeping mothers, children brought up by maids, children of divorced or undivorced parents, children living in apartments, owned homes, or rented homes, children living in trailers or in summer camps, children of parents of different political faiths (for example, parlor radicals or active social reconstructionists), children of fathers who are at home only when the children are absent or asleep—all of which conditions may be factors in delinquency. It is little wonder that objections are raised to classifying factors in general categories, such as racial differences, occupational or socioeconomic differences, religious or educational differences, broken homes, and neglecting the variable conditions that are concealed beneath the classification. It really seems as if the social causation of delinquency is about as complex as social organization itself. Boiled down to its essentials, the situation is that no matter how frequently we find various "unsatisfactory" conditions associated with delinquency, we cannot call them causes but merely predisposing influences. Thus the emphasis is inevitably shifted to the study of the personality, intelligence, and history of the individual case.

Common Features of Delinquent Background. It is the varying interaction of the individual and his particular society and culture that explains why some individuals seem to have been endowed with or to have developed social immunity to unfavorable conditions. Again and again the same so-called major factors have been found in association with delinquent conduct. Louttit, for example, drawing mainly on material and conclusions furnished by such students as Healy, Burt, Fenton, the Gluecks, Shaw, McKay, Slawson, and others, lists the following contributory factors: (1) Bad associates; (2) low occupational levels of parents; (3) foreign-born parents; (4) poor homes; (5) subnormal or abnormal family relationships; (6) socially disorganized communities. To these he adds three factors more immediately personal, namely, (7) mental dullness, (8) school retardation, and (9) emotional instability.

But against this unanimity of opinion as to contributory conditions we may place the theoretically disturbing but practically comforting fact that nondelinquents, even the siblings of delinquents, are exposed to these conditions and yet are seemingly resistant to their socially malign influences to such a degree that they grow up to be respectable, law-abiding citizens. "Surely," remarks Hirsch,[3] "the conforming brothers and sisters should evoke our curiosity, if not our admiration, should broken homes be a significant factor in the production of the delinquent." He rightly points out that there are two types of broken homes: a "normal" one, in which one parent is absent through death or prolonged illness (or, we might add, occupation), and another in which divorce,

[3] Hirsch, Nathaniel D. M., *Dynamic Causes of Juvenile Crime,* Sci-Art Publishers, Cambridge, Mass., 1937, p. 62.

separation, psychosis, or imprisonment constitute a different or "abnormal" kind of broken home.

Burt's findings with regard to conditions met with in the delinquents' homes are interesting. "Altogether," he says, "vice in the home was noted in 26 per cent of the cases; poverty with its concomitants in 53 per cent; defective family relationships in 58 per cent; and defective discipline in 61 per cent." [4] But poverty and defective family relationships (especially broken homes) were found with considerable frequency among the nondelinquents and were hence considered of lessened importance. The coefficients of association with delinquency were, for poverty, .15; for defective family relationships, .33; for vicious homes, .37; and for defective discipline, .55.

Conditions outside the home making for delinquency are, according to the same psychologist, unemployment, uncongenial school or work, defective or excessive facilities for leisure-hour amusements, influence of adults and strangers, and "above all, the influence of associates of the child's own age."

The Gluecks' excellent studies arrived at almost identical conclusions. "The picture of the delinquent," they say, "is one of social inadequacy, unwholesome psychologic atmosphere, poor heredity, low moral standards, and family criminality." [5]

Factors Contributing to Delinquency. With the understanding that none of the factors mentioned herein is all-explanatory and that the listing of environmental conditions is merely uncovering predisposing conditions

[4] See Burt, Cyril, *The Young Delinquent,* D. Appleton-Century Company, Inc., New York, 1925, pp. 106, 186.

[5] Glueck, S. Sheldon, and Glueck, Eleanor, *One Thousand Juvenile Delinquents: Their Treatment by Court and Clinic,* Harvard University Press, Cambridge, 1934.

rather than determining causes, we may proceed with a brief discussion of some situations that are generally regarded as unfavorable to social adjustment, and which crop up again and again in individual cases. Though these conditions are not to be considered as socially pathognomic, they do form dominant features in the environmental picture. These cases are not quoted *in extenso,* as there is no dearth of very complete illustrative case histories in the literature on delinquency. But because the situations listed have been frequently found in delinquent cases, even this brief description may be useful in providing leads in the psychological interview.

Specific circumstances or conditions that are most commonly contributory to delinquent behavior seem to be as follows:

1. Too much free time without supervision contributes to delinquency. The father and mother may both be working, or one of them may be permanently absent from the home. The child may have lived with another relative, frequently a grandparent who is either too old or too indulgent to exert sufficient control.

2. Ill health or alcoholism in one or both parents prevents proper and continuous oversight of children. Any condition that is so morbid or unusual as to center a great deal of attention upon one individual in the family group is often an unfavorable influence on the development of the rest. Children sometimes require adjustment if the family position is in any way exceptional. When the head of the family is a school principal or a minister or a judge, children often feel that the only way to get their individuality recognized is by social nonconformity. Even the sons of kings do not seem to be exempt from this need to rebel against a type of social symbiosis.

3. For other reasons the home may not provide a pleasant or satisfying experience. The parents may quarrel or disagree as to the form and degree of the discipline: the father may be too severe and the mother too indulgent. In cases where the father is tyrannical, the mother may be overprotective, and thus tacitly encourage rebellion.

With regard to discipline in general, authorities agree that the worst situation is where control is erratic or inconsistent, dependent on the mood of the parent.

4. The standards set up may be too rigid or exacting, so that the child is anxious to escape from constant surveillance and family pressure. In other homes the child is not expected, and has never learned, to assume any social responsibility.

5. There may be no recreations or other activities in which the family can function as a whole. Each individual may seek his own means of enjoyment. There is no marked community of aims or interests, and thus the family loses cohesion.

6. Another unfavorable condition is set up where there is a distinct clash of personalities, due to a conflict of ideas as to what the parent-child relationship should be. Antipathies and jealousies may arise between father and son due to the sharing of the mother's affection. This condition has been uncovered so often that it has misled the psychoanalysts into thinking that a transient or a permanent Oedipus complex is part of universal human experience. Similarly, a very strong attachment of a child to an older sibling may be a bad influence, leading to imitation of unhealthy activities. Stepparents are often a detriment to a wholesome upbringing, if they are charged with the responsibility for control or discipline without possessing the saving grace of natural affection.

7. Various neighborhood conditions are also conducive to delinquency. The family may be living quite apart from others of its own nationality and therefore the children may have little or no opportunity to share in community activities, such as churchgoing, attendance at recreation centers, and the like. This participation in community affairs is important. In primitive life the family is often only loosely cohesive, but the individual's sense of unity with the group, which is brought about by sharing in ceremonies of initiation and so on, becomes a most potent influence in bringing about social conformity. What are called the *rites des passages* have a profound social as well as individual reference and significance.

8. Overcrowding within the home is also an important contributory factor and exercises a baneful influence in several ways. Apart altogether from premature and injudicious sex enlightenment, a point to be discussed later, the fact that the overcrowded home provides no defense against social intrusion is bad. Children are perforce drawn into every unpleasant family incident, and there is no place of escape except to the street. On the other hand, attachment to the home is strengthened when the girl has some place where she can be alone or where she can keep her own possessions or where the boy, if he wishes, may entertain his friends. Some families, even under unsatisfactory conditions, manage to keep their cohesion, but as a general rule the situation is harmful. "Overcrowding," says Burt, "is most inimical to the child where the general disposition of the family is emotional—where anger, worry, and sexual instincts are always near the surface."

9. Perhaps because they are less open to observation, associations and experiences outside the home are frequently underestimated as factors contributory to delin-

quency. We have already noted the fact that pressure from within the family often fails of its expected or wished-for result. Children who exhibit resistance to family influence are frequently open to suggestion from others outside. One reason for this fact is that family pressure is easier to withstand than social pressure. The very stability of the home and the greater security of its relations means that there is a great deal of leeway possible in family relationships. A child may be petulant, selfish, greedy, quarrelsome, aggressive, or rebellious to a marked degree, and yet not forfeit his place in the family circle. But he cannot display these characteristics and maintain his status as a member of a social group. Most of us can afford to treat our families in a way that would quickly lose us our friends. In the play group or the gang there is usually a code of conduct that cannot be broken without immediate severe consequences. One can exploit family affection and loyalty, but in the associations outside the home this is rarely possible. There it is usually necessary to buy security of status within the group by conformity with its code.

Occasionally, as we have seen, there is a deliberate rejection of the standards of the home in favor of those of other associations. Accusations of sissiness, of being tied to the mother's apron strings, of being childish or immature are often effective in counteracting the more wholesome influences of the home. Among the foreign-born there is grave danger of misinterpreting community standards. This is clearly brought out in a study by Shaw and others of the delinquent careers of five brothers:

> The Old-World values of their parents made no appeal to the boys, whereas the unregulated play life of the community,

which represented American values to them, was stimulating and exciting. In this situation the efforts of the parents to control their children through punishment were futile.[6]

The consequences of this misconception were tragic.

Sex Education and Delinquency. Returning for the moment to conditions within the home, let us call attention to one of the most unfortunate effects of overcrowding. This creates a situation, says Burt, where "decency is difficult, delicacy impossible, and premature acquaintance with conjugal relations all but unavoidable! Under such conditions an early preoccupation with sexual topics develops rapidly, and sexual malpractices are not unknown among members of the same household." [7]

This casual familiarity with sex is, especially in the case of the girl, one of the frequently observed forerunners of delinquency. But in this matter of sexual revelations the influence of companions outside the home is frequently more important than anything that happens within the family circle. The fact that the mysterious is always alluring is the most weighty argument for a freer discussion of sex between parents and child in order to forestall the ill-effects of knowledge acquired from companions. When a child discovers that the reticence or secrecy with which parents surround the subject often veils a covert indulgence on their part, his confidence in their honesty is severely shaken. The whole matter of sex education is, however, a most difficult one, since as we have seen a too casual attitude in the home toward sex may have very bad effects. If reticence is entirely broken

[6] Shaw, Clifford R.; McKay, H. D.; and McDonald, J. F., *Brothers in Crime*, University of Chicago Press, 1938, p. 171.

[7] Burt, Cyril, *The Young Delinquent*, D. Appleton-Century Company, Inc., New York, 1925.

down, then one of the best safeguards of youth in this area of conduct is no longer available. Innocence is a far better protection than knowledge too boldly displayed, an observation that applies particularly to girls.

As a matter of fact, research and systematic inquiry are long overdue in this important question of proper sex education. Though experimental evidence is lacking, it is the author's opinion that the defenses against premature sex experience should be general rather than specific. The aim should be to acquaint the child with the sanctions that society imposes against impulsive behavior and to encourage him to exercise forethought and prudence in all areas of conduct, as well as the sexual, so that the individual will be accustomed to looking beyond the immediate pleasures to ultimate and more lasting satisfactions. Thus an attitude of independence and self-direction is judiciously developed, and in the meantime the home should provide protection and restraint. Opportunity makes the thief and perhaps, in a truer sense, the sex offender. A single child should never be left in company with an older companion, or with possibly untrustworthy servants, without supervision somewhere in the offing. Safety in numbers applies to very many human situations, and a one-to-one relationship without at least intermittent oversight should be avoided. This warning has previously been given, but is so important as to deserve repetition. Positive training as regards preconsideration of actions, sex information imparted carefully and in judicious amount, assurance conveyed to the child that his questions will not be shelved, and parental oversight, always present but not conspicuous, will very probably be effective in diminishing sex delinquency. The writer is not, however, in favor of sex education imparted to

groups of children without reference to their existing state of knowledge and needs.

Social Histories of Delinquents. With many delinquents who are brought to the clinic for study and recommendations, a proper social history is presented at the time by the probation officer or social worker. In other instances, the environmental data may for some reason be lacking or in such form that they are not readily analyzed. In such cases the psychologist will need a schedule which will summarize the salient features of the boy's or girl's background. With a repetition of the warning that the information, when obtained, cannot give in itself an adequate explanation of the antisocial conduct, the following schedule is suggested, modified in part for the different sexes. The data are arranged under six heads or categories, which concern negative or unfavorable features only. Much of the information can be obtained from the individual himself. The chief advantage of the schedule is convenience. By underlining the relevant items the examiner can quickly discern the salient points in the delinquent's history. For purposes of further convenience, items regarding appearance and attitude at the time of the interview are included.

Outline of Social History—Girls

A. PARENTAL CONDITIONS

1. Is father dead, divorced, separated, or deserted from family?
2. Is mother dead, divorced, separated, or deserted from family?
3. Is there a stepfather or a stepmother?
4. Has the girl lived with other relatives? At what age and for how long?

5. Has the girl been an inmate of a foster home or institution?
6. Are any of the girl's relatives known to have been delinquent, criminal, feeble-minded, alcoholic, insane, epileptic?
   Who?

B. DISCIPLINE

7. Supervision over girl has been spasmodic, inferior, lacking.
8. Discipline has been indulgent, erratic, severe.
9. Do parents disagree with regard to discipline?
10. Is there other quarreling or friction in the home?
11. Is parents' attitude to girl's delinquency indifferent, condoning, actually contributory?
12. Has she been excluded or has she run away from home?

C. HOME AND NEIGHBORHOOD

13. Neighborhood is crowded, racially mixed, lacking in recreational facilities.
14. House is overcrowded, poorly furnished, low rental.
15. Parents are poor, intermittently employed, partly or wholly dependent.
16. Girl's associates are boys own age, girls own age, older males, older females, other delinquents.
17. Girl's chief activities include movies, dancing, dates with boys or men, reading poor magazines.

D. DELINQUENT HISTORY

18. Has girl been sexually delinquent? How often?
19. Age of first experience: Below 12 years, 13 years, 14 years, 15 years, 16 years. Persons involved and periods.
20. Has girl been a prostitute?
21. Has she been venereally infected?
22. Has she been pregnant?
23. Has she had illegitimate children?
24. List other delinquencies.

E. EDUCATIONAL AND INDUSTRIAL RECORDS

25. Left school in Grade V, VI, VII, VIII.
26. Was she truant from school?
27. Was girl a member of a slow or opportunity group?
28. List jobs, wages, and periods of work.

F. APPEARANCE AND ATTITUDE

29. Is she physically immature, overdeveloped, unattractive, demanding attention?
30. Is girl poorly dressed, untidy, overdressed?
31. Cosmetics are crude, overdone, lacking.
32. Care of person is neglected, dirty.

G. MANNER OR BEHAVIOR

33. Bold, resentful, excitable, withdrawn, depressed, suggestible, silly, indifferent, timid, spoiled, alibis, lies, ashamed, sullen, mentally confused, reticent, nervous.

For boys the same items are listed as for girls up to number 16, and thereafter the schedule is as given below. It is not to be supposed that these schedules list all the important factors in individual cases. If other contributing or determining factors are present, they should be noted on the form.

Outline of Social History—Boys

C. HOME AND NEIGHBORHOOD

16. Boy's associates are older boys or men, other delinquents.
17. Boy's chief activities include movies, poolroom, gambling, street loitering, dates with girls.

D. DELINQUENT HISTORY

18. Has boy stolen from home?
19. Has boy stolen from others besides family?
20. Are offenses committed in company?

21. Stealing began at age below 10 years, 11 years, 12 years, 13 years, 14 years, over 14 years.
22. List other offenses, with dates.
23. Was boy a member of a gang?
24. Has he shown destructive tendencies?
25. Is he ill-tempered?

E. EDUCATIONAL AND INDUSTRIAL RECORD

26. Left school in Grade V, VI, VII, VIII.
27. Did the boy play truant? For what periods?
28. Was he a member of a slow or opportunity group?
29. Has he been employed. List jobs, periods, and earnings.

F. APPEARANCE AND ATTITUDE

30. Is boy physically immature, overdeveloped?
31. Has he any marked physical defects?
32. Attitude towards delinquency is indifferent, boastful, evasive of responsibility, alibis.

G. MANNER OR BEHAVIOR

33. Bullying, aggressive, irritable, sullen, depressed, sly, lying, mentally confused, obtrusive, silly, destructive, physically overactive, nervous, lazy.

The author shares with others the view that there are multiple causes of juvenile delinquency, and that the grouping of conditions under various heads merely clears the ground for further study. Burt also is careful to state that this sifting of causative conditions into major or minor may be little more than an arbitrary assortment, and that even if attention is centered on seemingly outstanding factors, "we may still count up as many as seventy different conditions, each forming in one instance or another the principal reason for some child's offense."

School Failures and Delinquency. But notwithstanding these facts, there is among the dissatisfactions of the delinquent one that is outstanding, especially in the case

of the boy: it is only rarely that he is well adjusted as regards his school life. In many cases it is the discipline that he dislikes, a very natural reaction, because the school imposes regulations and restraints quite untempered by family affection and feeling. The group that the boy is placed with in the classroom is not one of his choosing, and the social pressures that he undergoes may seem unnatural and repressive. This is a particularly difficult situation for the egocentric personality to accept.

Quite apart from discipline, school becomes distasteful because the work is so difficult that the boy cannot experience any of the satisfaction of achievement. This is because the majority of delinquents can be classified as mentally dull and therefore backward. Burt says:

> Among personal conditions, the most significant are, first, the mental dullness which is not severe enough to be called deficiency, and secondly, the temperamental instability which is not abnormal enough to be considered pathological.[8]

Of the group studied by Lund, 24.4 per cent of the delinquents were retarded in intelligence, as against 10 per cent of the nondelinquents. The New York Crime Commission found in their study of 40 pairs of delinquent and nondelinquent brothers that the median I.Q. of the delinquents was 75, or 11 points below the median of the nondelinquents. Hirsch's 445 delinquents had an average Binet I.Q. of 80, but he notes their better standing in mechanical ability. In Hawaii a study of 1000 delinquents gave a Binet average I.Q. of 79 ($n = 443$ males) and 74 ($n = 577$ females). The Maze test average I.Q.'s for the two groups were 90 and 80 respectively.

[8] Burt, Cyril, *The Young Delinquent,* D. Appleton-Century Company, Inc., New York, 1925, p. 607.

These results are extraordinarily uniform, proving that whether the delinquent is English, American, Chinese, Japanese, Portuguese, or Hawaiian, whether he lives in London, Chicago, or Honolulu, he tends to be distinctly below the average in tested intelligence, his deficiency being more marked with verbal tests than with tests in which practical ability is a more important factor. As regards the proportion of feeble-minded delinquents, Healy, Slawson, and the Gluecks all agree in findings of 13 per cent. Hirsch estimated 15 per cent of his delinquent group to be mentally defective, while Burt's figure is 8 per cent. The author's estimate is 10 per cent, but the differences may well be due to varying standards of normality.[9]

Inferior Achievement, Not Mental Dullness, the Significant Factor. At this point let us reconsider the whole matter of delinquency, lest we be misled into thinking that mental dullness is a cause. If this *were* the case, we should expect to find the association of delinquency becoming closer as we descend the intellectual scale, so that the feeble-minded would be extremely prone to social misconduct. But we have already seen that the incidence of delinquency is really greater for the dull than for either the feeble-minded or the bright. It may be argued, of course, that defectives have not brains enough to get into mischief; but, on the other hand, they have not wits enough to avoid being caught. In the second place, if ability to plan and conceal delinquent acts is a factor, then our figures with regard to the incidence of delinquency may be very misleading. On the basis of clinical experience, it is doubtful whether there are many normal

[9] Hirsch summarizes these studies in Chapter IV of his book, *Dynamic Causes of Juvenile Crime.*

individuals who have not at some time or another committed a delinquent act. The important fact is that they did not persist in this line of activity to the point of discovery and apprehension. Just as anonymous questionnaires addressed to women revealed an unsuspected incidence of masturbation, so might similarly unlooked for results be expected if a judicious inquiry were carried out on the subject, say, of stealing. I should not be at all surprised if the true incidence of delinquency, considering single acts as such, were not just as great for the mentally bright as for the dull.

But continuance of the delinquent behavior is more characteristic of the mentally inferior. Furthermore, it is inferior mental achievement that is the real factor, rather than mental dullness itself—a failure to realize one's potentialities rather than being less capable than someone else. If we could succeed in closing the gap between mental ability and achievement in dull individuals, we would probably have considerably less delinquency. To set forth all the reasons for this statement would be to review again the whole subject of the relationship between achievement and emotional satisfaction and maturity.

A personal example may suffice to explain why normal individuals do not persist in delinquent acts. As a boy I stole fruit from orchards. I did not give up the practice because I liked cherries any the less or did not get the same thrill out of the adventure, or even because I was more able to buy them. I "reformed" for the simple reason that it became beneath my dignity to steal and to run the risk of being found out. To show how I built up this fund of self-esteem would be to record my boyish achievements in other fields; and these eagerly acquired positive satisfactions would have been endangered had I been

caught stealing. The delinquent act thus became foreign to my pattern of behavior.

The mentally dull person is deprived of the opportunity that the rest of us use to acquire dignity and to build up satisfactions in other fields.

The Dull Child Is Educationally Neglected. A large part of the blame for the failure of many individuals more nearly to equalize mental ability and mental equipment must be laid at the door of the schools. Their methods of teaching are geared to the average capacity and make little appeal to the subaverage mind. We have succumbed too easily to the idea that mental dullness is something that we can do little or nothing about, and that the gap between ability and achievement cannot be lessened.

It is the more mechanical educational operations that are the main stumbling blocks in the way of the dullard's progress. After centuries of educational effort, the teaching of the essential but uninteresting subjects of reading and arithmetic is uninspired. Teachers have not used to the full the common educational principles of frequency and intimacy of experience. Support for this contention is to be found in the astonishing ease with which young children acquire speech and a working vocabulary. In this respect the gap between the bright and the dull is not so marked—most children have begun to talk by 14 months and have acquired a working vocabulary by $2\frac{1}{2}$ years. We certainly learn through the eyes as readily as through the ears, yet how does it come about that learning to talk is so easy for the dull and learning to read is so difficult? If some of the world's best brains were diverted from the problems of industrial invention or from the formulation of abstruse philosophical theories and put to work on the

task of devising methods for the painless acquiring of reading and arithmetic, the world might be better off. Kindergarten education should be taken out of the hands of schoolmarms and made the responsibility of scientists. If we could make the task of educational achievement easier for the dull, so that he too could be given the chance to build up substitute satisfactions, the incidence of delinquency would be materially lessened. If reading was not so painfully acquired and was not exercised with so much difficulty, the means of self-education outside of the school would be used much more generally. Self-esteem would then grow by accretion and would surely act as a restraint on delinquent tendencies. If the mechanics of reading were mastered by the fourth grade, the teacher's attention could then be devoted to enlarging the vocabulary and putting reading to use.

The child learns to talk easily because he is continually exposed to object-name associations. As an experiment in giving the young child similar advantages with regard to reading, we might try plastering the walls of kindergartens with pictures of objects, each with its name printed not below the picture, where it can be conveniently dropped from the configuration, but across it, where it will come in time to be identified with the object. Painless reading could easily be begun at 4 years. Also, let us try exposing the child of 7 years so constantly to the facts of addition and multiplication that they need never be learned by rote. Let us exercise some of the best human ingenuity in the standardization of educational wallpaper. Supplemented by interesting methods of presenting uninteresting material, this plan might remove the hurdles from even the dull child's path.

NOTE. The references for Chapter XII are on pages 351-352.

CHAPTER XIII

Delinquent Personality and Treatment

Chapter XII discussed the environmental conditions, both within and outside of the home, which seem to be conducive to delinquency. The interaction of natural and nurtural factors was stressed, and the fact that in some cases the environmental conditions reinforced the constitutional tendencies while in other cases the two influences were opposed. Nothing was said, however, with regard to the delinquent personality and what individual traits or internal conditions are conducive to social maladjustment.

Self-indulgence a Common Feature in Delinquents. In interviewing and examining many delinquents at the clinic, there is one rather outstanding characteristic that has been observed in their make-up. They betray a strong tendency to be greedy and self-indulgent, to look for the soft spots on which to fall, and, generally speaking, to give free rein to appetite and to seek the easiest means of gratifying it. Those who pursue this tendency with little regard for the rights or desires of others are often termed, as by Healy, egocentric. Some delinquents are not so self-centered in general behavior but nevertheless rarely practice any prudent restraint; they must have what they want when they want it. This habit of self-indulgence extends to many and various situations, at least in boys' lives and, we suspect, in girls'.

So frequently does self-indulgence appear in the personality of delinquent cases that a rather simple test of

this type of characteristic behavior was arranged some years ago. It consisted of six test situations in which the actions of four boys are verbally presented, the individual being asked to put a mark under the name of the boy who did the thing he would himself like to do. Care was taken to exclude all reprehensible actions. Assurances were given that there were no right or wrong answers, and the subject was asked to be sure to pick the thing he would really like best to do and not the thing he thought he ought to do. It was explained that the test referred to a Saturday and not to a school day.

The Self-indulgence Test

I. Time I would like to get up

Tom got up at six o'clock.
Dick got up at seven o'clock.
Harry got up at eight o'clock.
Jack got up at nine o'clock.

II. Breakfast I would choose

Jack had cereal, toast, one egg, milk.
Dick had orange, cereal, toast, two eggs, milk.
Tom had orange, cereal, toast, ham and two eggs, milk.
Harry had orange, cereal, toast, ham and two eggs, hot cakes and bacon, milk.

III. What I would like to do in the morning

Harry worked at home 3 hours, earned $1.
Tom worked at home 2 hours, earned 50 cents, played baseball 1 hour.
Jack played baseball 1 hour, went swimming 1 hour, worked 1 hour, earned 25 cents.
Dick played baseball 1 hour, went swimming 1 hour, played football 1 hour.

IV. What I would like to do in the afternoon

Dick went to movies 2 hours; read a book at home 1 hour.

Jack went to movies 2 hours; played with his gang 1 hour.

Tom went to movies $2\frac{1}{2}$ hours, at drugstore $\frac{1}{2}$ hour, had one ice-cream soda and bought chocolates (25 cents).

Harry went to movies $2\frac{1}{2}$ hours, at drugstore had two ice-cream sodas, two ice creams, bought chocolates (50 cents).

V. What I would like to do in the evening

Harry read an interesting book and listened to the radio at home.

Tom went riding with his family in an automobile.

Jack went riding with three boy friends.

Dick went riding with a boy and their two girl friends.

VI. Whose luck I would like to have

Jack had four A's on his school report card.

Dick had two A's on his card and picked up a dollar.

Tom had one A on his report card and picked up two dollars.

Harry picked up four dollars.

VII. How many movies I would like to attend in a week

Tom went to movies three times a week.

Harry went to movies once a week.

Dick went to movies five times a week.

Jack went to movies four times a week.

Scoring of Test. The first situation is not scored; it serves merely to introduce the test. In each of test situations II to VI no penalty points are allotted if the subject chooses the least indulgent act. He loses 4 points if he

chooses the second statement, 6 points if the third, while if his choice is the most self-indulgent he has 10 points scored against him. Test situation VII was not used in the first application of the test.

Results of Test. Comparison of a group of 211 delinquents, all inmates of a boys' industrial school, and a group of 248 nondelinquents of similar age and attending school in a neighborhood from which many of the delinquents came was most interesting. The delinquents scored an average of 23.07 penalty points, while the record against the nondelinquent group was 16.43, a decidedly significant difference. The results are given in Table XVII.

TABLE XVII

SCORES OF DELINQUENTS AND NONDELINQUENTS IN SELF-INDULGENCE TEST

Group	*Number*	*Average Score*	*Standard Deviation*	*Difference*	*Standard Deviation Difference*	*Critical Ratio*	*Chances in 100* *
Delinquents	211	23.07	11.87				
Nondelinquents	248	16.43	8.40	6.64	.975	6.81	100

* This figure represents the extent of the probability that the true difference would be greater than zero. The formula is described in H. E. Garrett's *Statistics in Psychology and Education,* Longmans, Green & Company, New York, 1937, p. 212.

An analysis of the detailed scores in this test is interesting, especially an examination of the tendency of the subjects to make extreme or most self-indulgent choices. This proves to be much more marked in the case of the delinquents.

The data given in Table XVIII were obtained by counting up for the whole series of delinquents and nondelinquents the total number of 10-point or most self-indulgent choices scored against them.

TABLE XVIII

EXTREME SELF-INDULGENT CHOICES IN SINGLE ITEMS OF SELF-INDULGENCE TEST

Test Item	*Number of Delinquents Making at Least One Extreme Choice*	*Per Cent of Group*	*Number of Nondelinquents Making at Least One Extreme Choice*	*Per Cent of Group*
II	77	36.5	38	11.3
III	36	17.1	12	4.8
IV	48	22.7	16	6.4
V	67	31.8	25	10.1
VI	84	39.8	48	19.4
Total	312		139	

Reference to this table shows that the total most self-indulgent choices made by 248 nondelinquents in the whole series was only 139 as against 312 for the 211 delinquents, and that test situation VI, which relates to choice of most fortunate happenings, was the least diagnostic, as only twice as many extreme choices were made by the delinquents.

Table XIX gives the number of individuals in each group who scored 0 to 4 extreme choices.

The test itself is admittedly simple and the items are so few that it is surprising the differences between the delinquents and nondelinquents are as significant as they appear. The figures, of course, give no clue as to whether this tendency to self-indulgence is innate or acquired. Greediness, laziness, excessive pleasure-seeking, and be-

TABLE XIX

INDIVIDUALS WITH EXTREME SCORES ON SELF-INDULGENCE TEST

	Delinquents	*Percentage*	*Nondelinquents*	*Percentage*
0 Extreme Choice	53	25.1	160	64.5
1 Extreme Choice	64	30.4	58	23.4
2 Extreme Choices	45	21.3	19	7.7
3 Extreme Choices	38	18.0	11	4.4
4 Extreme Choices	11	5.2	0	0

ing good to one's self in all probability have a physiological basis, but they are undoubtedly fostered by certain environmental conditions.

Situation VII in the test refers to the number of movies per week that the child would like to attend. Since this was given to only two groups of 105 delinquents and 92 nondelinquents, the results were not included in the tables. It is interesting to note, however, that extreme choices (movies five times a week) were made by 23.8 per cent of the delinquents but by only 6.5 per cent of the nondelinquents, while 43 per cent of the delinquents and 77 per cent of the nondelinquents said that they would prefer to attend movies only once a week. Without overestimating the value of this apparently simple test, we can say that the obtained results indicate a lead that should be followed and that further work along these lines, including the arrangement of a test for girls as well as for boys, may be useful in recognizing predelinquent temperaments.

Deeper Causes of Delinquency. As was previously remarked in presenting the test of self-indulgence, this

tendency lies more or less on the surface, where it is rather easily observed. There may, however, be causes lying deeper in the personality of the delinquent, which can only be brought to light after a very careful examination into and understanding of his nature. Effective treatment can be expected only when these deep-seated dissatisfactions are uncovered.

Delinquency, practically defined, is more or less active resistance to the pressure of social regulation carried out to such a degree that society feels itself threatened and takes measures to restrain or punish the rebel. It may also be defined from the sociological point of view by saying that the delinquent is one for whom the checks and counterchecks designed to safeguard social cohesion are insufficient.

Psychologically, delinquency can be described as resulting from a lack of balance in the operation of the so-called drives which, according to Dashiell, "are concerned with the original sources of energy that activate the human organism and set it going." We have already described the fundamental drive as the tendency of every living organism to resist by every means in its power things or conditions which threaten its continued activity. As soon as individuals become socially enmeshed—in other words, as soon as there are two individuals together—there may arise a conflict between their vital interests and activities, so that if both are to survive, the regulation of this competition is necessary. But this social regulation would not be sufficient to explain what we call society, for it might merely amount to mutual negation. Social action must be thought of in terms of mutual assistance as well as of conflict. Co-operation is essential to human survival.

Many of our organic functions have a more particular individual reference, such as muscular or vocal exercise, eating and digesting food, sensory activities, excretion, and certain sexual practices. Yet even in these, either custom, convention, or law may step in to enforce certain restraints on the individual. One may be punished for what is called indecent exposure, peeping, trespassing, or one may be socially ostracized for disregard of certain conventions in eating and drinking. In other words, there is hardly any action that we perform that may not under certain conditions have a social as well as an individual reference. As far as social adjustment is concerned, we are born into a world not of our making; we must not merely live in it, but *learn* to live in it. This learning is necessary because from birth other human beings are absolutely essential to us and continue to be so throughout our whole life. They are part of the environment which represents the optimal conditions for our functioning. Even the hermit, solitary though he may be, must have imagery in which human beings are largely represented; so, too, social situations must enter into his thoughts.

Unlike the birds and some of the animals, we have no gaily colored patches or integuments whose function is apparently social display. Hence in this vital business of attracting social attention a great number of our structures co-operate—the organs of speech, the eyes, the mouth, the skin, and most of all the cortex are working overtime in the effort to secure social recognition, approval, prestige, affection.

The Social Drive. By some writers this social drive is related to infantile dependency. Brooks, for example, states that "the need for recognition or attention is derived from satisfaction of the individual's physiological

needs in infancy. . . . Learning occurs which causes the attention of human beings to be esteemed and sought throughout the rest of life." [1] But it seems unnecessary to derive man's social needs from his physiological needs in this manner. Other individuals are as necessary to us as air, food, or water. Even if a baby were reared in an incubator without immediate social contacts, there would come a time when companionship would be necessary if the child were ever to develop distinctively human ways of behaving. Deprived of speech, affection, social intercourse of all kinds, the individual would be little better than an idiot. It is true, however, that social behavior must be learned, and contact with others is one of the conditions necessary to that learning. But even though we must find out by experience the most effective ways of reaching out to our fellow men, this need not obscure the fact that this reaching-out process constitutes a social drive. We must also learn to eat, a circumstance that does not affect the existence of a hunger drive. Seeking attention, then—though effective means of doing so are learned reactions—must be considered one of the fundamental adiences or urges.

This matter is well put by Mark May: [2]

Man was never a solitary beast, after all. Ever since he became a man he has lived in some sort of group, and there has always been social behavior. . . . It is part of the general hereditary behavior pattern of the individual which may or may not be realized. Social activities may be initiated in various ways, but once they get going they develop, like every-

[1] Brooks, Fowler D., and Shaffer, L. F., *Child Psychology.*

[2] May, Mark A., "The Adult in the Community" in *The Foundations of Experimental Psychology* (edited by C. A. Murchison), Clark University Press, Worcester, Mass., 1929, p. 780.

thing else, their own drives. Social skills are learned just as other skills are.

The contention that social display is an important part of organic functioning agrees with Woodworth's view that the social motive is inherent in social activity and that man is socially active because he has the capacity to be so. Man having always been a social being, it is inevitable that he has inherent in him the mechanisms for social attraction.[3]

Social Frustration and Delinquency. If for various circumstantial or personal reasons an individual's social drive is ineffectual and he is denied affection or social esteem, there is a most disturbing emotional effect, serious enough to bring about quite a disorganization of ordinary behavior, similar to that which occurs when any other drive is thwarted. We speak of sex hunger, and it would be equally permissible to speak of hunger for social recognition. Physical restlessness, the employment of all kinds of attention-getting devices—acts which may be regarded as gestures of protest, anger, or despair—are the common symptoms of this condition. Though motivated by the desire for social achievement, many of these extraordinary acts are subversive of socially regulated conduct—in short, are delinquent.

It is rather a strange paradox that if we are thwarted in our attempts to win the approbation of society, we tend to respond by offending society; yet this fact has many common exemplifications. We are all familiar with the behavior of the man who is frustrated in his expression of a great and possessive affection—the jealous rage,

[3] See Woodworth, R. S., *Dynamic Psychology,* Columbia University Press, New York, 1918.

the devious plots, the self-punishing acts that are directed in the hope of repossessing the attention of his love object. In defiance of reason he frequently pursues the course of action which is most likely to alienate affection. As to the effect of a frustrated social drive, probably no one has so satisfactorily described the situation as Healy and Bronner:

> It is commonly held that neighborhood conditions, bad associates, poor recreations, etc. are accountable for the production of delinquency. In truth these are destructive influences, but seeking further it appears that at some varying distance upstream in the sequence of delinquent causation there are almost always deeply felt discomforts arising from unsatisfactory relationships. . . . It is through the lack of satisfying human relationships that feelings of inadequacy, deprivation, or thwarting are created. When these discomforts are powerfully experienced, the driving force of wishes and desires naturally develops into urges for substitute satisfactions. When the young individual does not then find satisfactions enough in socially acceptable behavior (or does not develop an inhibitory neurosis), he may find an alternative mode of self-expression through seizing upon the idea of delinquency.[4]

It must be remembered, however, that the satisfactions that come from delinquent acts are not always substitute satisfactions but are direct outcomes of the operation of other drives than the social. Ineffectiveness of the social drive as a basic cause for delinquency does not apply with such force to the self-indulgent individuals described in the early part of this chapter. In these it may be that the social drive for recognition is relatively weak. They steal, not because of some emotional disorganization or

[4] Healy, William, and Bronner, Augusta F., *New Light on Delinquency and Its Treatment,* Yale University Press, New Haven, 1936.

thwarting, but because they need the things they steal and cannot otherwise earn the wherewithal to obtain them honestly. The thefts are usually limited and specific in purpose: this boy steals money from home to buy sweets for which he has a craving; this girl purloins things for self-adornment; a third child wants the money to indulge an inordinate love for thrilling movies; and hundreds of boys have played truant from school because the weather was hot and the swimming hole invited. Where the simpler explanation fits the facts, the law of parsimony should prevent us from seeking a more complex causation.

Emotional Unrest as Basis of Delinquency. Healy noted evidence of emotional disturbance in 91 per cent of his cases, but it would be an unwise assumption that this disturbance was the prime cause of the delinquency in this percentage of the group. Still, without doubt, a large number do pursue substitute satisfactions, and in these cases it might be well to inquire how delinquency can serve as *self-expression.* This characterization of some delinquent behavior is the most penetrating part of Healy's statement. It may be made clearer by a brief discussion of a recent case:

The individual concerned was a girl, fifteen years of age, the daughter of well-to-do parents who had sent her to a girls' residential academy. She had one brother three years older, who was extremely bright. The parents, being aware of the danger of showing partiality, were extremely careful to hold the balance even between them, as regards both affection and general treatment.

One interesting feature was that I had examined both children eight years previously and had found them intellectually advanced. The boy's Binet I.Q. was 135, his Maze 151. The girl had a somewhat lower Binet I.Q. of 128, but passed a

Maze test of 12 years, I.Q. 157. The boy had fulfilled the promise of his boyhood and graduated from a mainland college at a precocious age. The girl, however, was not particularly bright and was getting poor marks in her English at a sophomore high-school level. More serious still, however, were certain features of her behavior. She was often found wandering around by herself at night and had stolen things from other girls on several occasions.

The examination proved that she had not attained the expected rate of intelligence development. Her Binet I.Q. had fallen to 105, but this was not the most serious feature. The quality of her performance was very inferior. She gave her answers quickly when she had them ready, but withdrew from every task that seemed to her to be difficult. Hence her replies to the vocabulary test were halting and uncertain, and even when the examiner felt she had the idea correctly in mind, she could give no lucid or continuous reply. She would begin to answer with a rush and then quickly trail off into incoherence. Arithmetic was good, but here again if the answers were not given correctly immediately, she was likely to throw up the task.

The Maze test performance was equally poor as regards quality, and she improved her score only one year over her effort at age seven, nearly eight years before. She succeeded in all the tests up to and including eleven years and had come to the last turning in the twelve-year design when she hesitated and went up the wrong path. Immediately on the next trial she made the first mistake possible—a very obvious and foolish error. The same hastiness and mental confusion were shown in the next test. Although this was the second application of the Maze, her I.Q. was now only 96—a more decided drop than in Binet performance.

Eight years before the parents had been warned that she was exceedingly jealous of her brother. If he jumped out of the car to open a gate, she had to get out too, and she made

constant competitive bids for attention. Now she showed a rather ambivalent attitude towards him, a compound of admiration and envy. She was delighted with any attention he showed her, especially when he called occasionally and took her to a dance. He could beat her at tennis but she could outswim him. Asked if that pleased her, she said, "No, I don't want him to be a sissy." She would rather be excelled at manly sports and thought he was not as virile as he might be.

She claimed that she felt equal affection for both her parents, but when questioned admitted that she valued her father's approval more than her mother's. She thought she would rather be a boy than a girl in some ways, mainly because boys could go to dances, etc. whenever they liked and go traveling and have adventures. In other ways she preferred her own sex "because men have to work too hard." She is not fond of responsibility and hard work.

The stealing was largely purposeless, as she really did not need the things she stole, her pocket money being ample for all her requirements. It seemed as if she could not help doing it. Her health was good except that menstruation had appeared at 14 years but had not since become regularly established. School was more satisfactory, especially since she had a man teacher for English, whom she liked better than the woman who formerly was her instructor.

So far the study and analysis of this case had brought out the following salient facts:

(1) The girl was above average in mental ability, but (2) she was extremely easily discouraged and distrustful of her capacity; (3) temperamentally, she was inadequate in emergencies and responded with hasty and confused actions; (4) emotionally, she was considerably bound up with her father, and consciously and unconsciously imitated him; (5) she preferred boys and men to her own sex, and had an ambivalent attitude to her brother, a compound of envy and admiration, which, however, she was unready to admit; (6) the emotional

unrest, occasioned by the failure to obtain parental approval, by jealousy of her brother's attainments, and by competitive pressure socially and at school, gathered head until it broke through the crust of ordinary inhibitions and issued as withdrawal and stealing; (7) there are menstrual irregularities which may have a reciprocal connection with the emotional difficulties.

I believe that all of these conditions, brought to light by what many authorities would consider a very superficial study and analysis, are factors in this child's delinquency. Even the fact that the mental level is above average is important, since gaps between conscious ability and actual achievement have an extremely disturbing effect, and with a bright brother and ambitious parents the comparative school failure would rankle all the more.

If this view regarding the many facets of the situation is correct, it would follow that no one-sided attack on the problem would be effective. A deeper analysis would undoubtedly cause us to place more emphasis on one factor or another in the situation, but they are all causally active. Treatment of the case has begun with a careful point-by-point discussion with the girl of all these considerations and with special reference to the degree to which the delinquent acts can be considered, in Healy's phrase, as *self-expression.*

The Delinquent Act as a Form of Self-expression. This interpretation of delinquent behavior has been referred to by Healy as "new light on delinquency," but as a matter of fact it is scarcely new. Throughout a number of years of experience with adults and children the author has consistently held the view that in many cases crime and delinquency represent a form of self-expression. In this matter he gratefully acknowledges Healy's

lead, as it was in a much earlier book of Healy's on delinquency that the idea was first set forth, though with much less emphasis than in his later pronouncements.

There does not seem to be any basic difference between some modern artists or musicians expressing their inner emotional unrest through bizarre, confusedly conceived compositions or pictures that epitomize dissidence and revolt against convention and, on the other hand, an impulsively planned, unnecessary stealing. The basic drive is the same. A certain modern artist was once asked why painters had discarded entirely the idea of fidelity to nature in exchange for distortion and an exaggerated symbolism. His explanation was that the high-water mark had long ago been reached in the former type of painting and that the modern revolt against convention arose through the resolve of these artists to throw photographic fidelity to the winds and develop their own modes of emotional release through artistic expression. Such revolt is allowable, and to some minds it is laudable, whereas stealing is overt delinquency.[5]

With regard to the case of the girl under review, further study strengthened the above parallel. There was the same basic unrest, the same withdrawal from competition, the same need for self-expression, the same protest or discouragement signalized by bizarre and unconventional action. Her stealing otherwise is purposeless. But let no one who has not stolen deny the realities of its emotional outlets. There is first of all the anticipatory excitation, involving the choice of the object to be stolen, with an

[5] Of course, there are other theories of modern art than the revolt hypothesis. Some state that the painting represents not the artist's unrest but his interpretation of the spirit *of the times*. There is still a relation to the basis of delinquency.

appraisal of the time and place of the offense in relation to the danger of detection; there is the extreme trepidation with which the situation is approached, the triumph of courage and resolution over hesitancy and fear; and finally, there is the great release of emotional tension attendant upon successful escape from under the immediate threat of discovery—the whole constituting an artistic fugue of fearful approach, accomplishment, and triumph.

All these features were rediscovered in discussion with the girl, and their relation to the basic emotional conditions was fully explained and appreciated. The father and brother relationships were thoroughly aired, and the foundations of a more independent attitude were duly laid. The treatment is only beginning but, judging by past experience, a cure will be effected, at least as regards the delinquency, and also an improvement in the basic emotional problem. However, it is doubtful whether it will be possible to talk the girl out of her desire for the freedom and social independence of the opposite sex. Boys *do* have a better time than girls in our form of society, and the only philosophy we can recommend is that of accepting the inevitable.

Crime as a Dramatized Social Protest. Because of the importance of the problem of the emotional basis of delinquent behavior, let us consider another case with a more tragic ending, but one in which at several points in the stream of attitudes and events the current might have been diverted into a more useful channel had the clinical psychologist been consulted at the time. This case illustrates a criminal act representing an almost frenzied revolt against the confining environmental mold, taking the form of a drama in which the criminal was both author and chief actor.

The individual in question was a Japanese youth who had committed a particularly atrocious crime. He had appeared at a school with a story that the mother of one of the boys had met with an accident and that he had been sent from the hospital with a car for the boy. Later on the father of the abducted child received a letter signed "The Three Kings," intimating that a gang was holding the boy for $10,000 ransom. After the payment a couple of days elapsed and then the boy was found dead in some brush near the town. He had been hit on the head and strangled. Beside the body were three kings from a deck of cards; a rough cross had been placed at his head, a piece of paper on which was a poem on immortality had been thrust into his hand, and a half-smoked cigar lay beside the body. The murderer was apprehended in trying to pass some of the ransom money and confessed.

The youth when examined proved to possess mental ability just short of superior standing, his score on the Binet being 15 years 3 months. His vocabulary was good, and he showed very fair ability for verbal expression. *Misery* he defined as "having trouble with the mind," while *character* was "quality of soul." *Evolution* was "change from one state of life to another." The code test was well done, as was also the problem of the enclosed boxes.

In the Porteus Form and Assembling Test he was very quick and alert in selecting parts of common objects and scored 18 years.

His Maze test, however, was very inferior. Up to the 8-year test he worked well and quickly, but he made a most unusual and obvious error at the 9-year level. The next two tests were passed, but the attack was hurried and success was achieved not through careful preconsideration but because of an opportunist's mental alertness. In the 12-year test he made error after error, finally succeeding by a process of eliminating each possible mistake in turn. Inverted, the test was also passed at the fourth and last trial. Four trials were also necessary in the

14-year test; again he explored each blind alley in turn. Considering his Binet score, this Maze performance was decidedly weak. His test age was 11½ years, I.Q. 82.

In the Healy Picture Completion Test II he made an even more inferior score—47.5, equivalent to a test age of 10½ years. In the first half of the Pressey Cross-Out Test of emotional stimuli, he marked the following as being particularly disagreeable to him: fear, dislike, fight, robbery, insult, tremble, cruel, dirty, nervous, drunk, worry, loss, meanness, illegitimate, immoral, cheat, slash, kill, sin, cannibal, poison, pus, falling, disgrace, shame. This choice may have been in some respects influenced by his recent experiences.

The interview brought out the salient facts in the social history. Up to the fourth grade he had been very unhappy at school and had played truant on several occasions. His work and interest improved, and he finally graduated from the eighth grade at the top of his class. After three months' employment in the pineapple fields, his parents moved to Honolulu to give the boy a better industrial chance. He worked for 2½ years at a general hospital as elevator boy, floor attendant, and messenger—wages $40 per month. His work there gave him no satisfaction. He was, as he said, "surrounded by tragedies. It was making life hard for me—I hated it." His desires were for money to continue his education and good clothes so that he could be always neat and clean in appearance.

His home life became increasingly unsatisfactory to him. He could not converse fluently with his parents in Japanese nor they with him in English. For weeks after a discussion of American and Japanese customs his father would not speak to him. He lamented that he and his father could not have "heart-to-heart talks as Americans do." He became ashamed to ask friends to the house and changed his name to Myles, thus signifying his rejection of his parents. He professed affection for them but thought they did not belong in America and would have been happier in Japan.

His wish to identify himself with American whites colored all his likes and dislikes. He read books like Tarkington's *Penrod* and *Seventeen* because they depicted boys like himself, and he also attended movies that showed American home life. His favorite reading was Porter's *The Harvester*—the home-building and the love interest attracted him. He was especially thrilled with the execution scene in *A Tale of Two Cities,* and he also read with delight Poe's *Tales of Mystery and Imagination.* He did not read detective stories until he was planning the crime.

Fantasies were commonly indulged in, and in these he always imagined himself a hero or an explorer—and white. Daydreams during masturbation always concerned white women, but after reading a book about the habit he tried hard to break it. About a year before the crime he attempted suicide.

With regard to the crime, he said he had no animosity towards the whites but he wanted to concoct a clever scheme—one that would mystify them. He gained the idea of "The Three Kings" from a packet of cigarettes bearing that brand and thought that this would mislead people into thinking there was a gang involved. The cigar beside the body was to lead to the conclusion that the criminal was a man. (He always thought of himself as a boy.)

Emotionally the murder had little effect on him. He was used to seeing people die at the hospital, and he anticipated no trouble in killing his victim, as he had watched men being stunned in the movies. His decision to kill the boy was due to his desire to commit a crime punishable by death. The night of the murder he went to a white prostitute, but felt disgusted and nauseated at her boldness. After the crime he felt very sorry for the parents and sent flowers and a note of sympathy to the graveside.

Again we need no deep analysis to reveal the basic causation of this youth's criminality—the extreme discouragement and sense of frustration, the earnest desire

to obtain social approval, the ambivalent attitude towards his parents, the sexual unrest, the pursuit of an impossible ambition, the callousness concerning death and his own death-wish as desire for punishment, the elaborate dramatization of the act, the conflict between the desire to be a mild-mannered, inoffensive, affectionate individual and a master criminal. The murder was not due to any one of these causes but was the outcome of the conjunction of all of them. It was essentially an act of self-expression embroidered by all kinds of bizarre yet symbolic trimmings, a truly tragic work of art.

A commission of three physicians and the author was appointed to report on his mental condition. The unanimous opinion independently arrived at was that the youth was sane, and he was duly executed.

It is evident that in both these cases there is ample room for the enlargement of various psychoanalytic theories, but there is no reason for spinning any more elaborate causative network than was apparent on the surface. As regards the Japanese youth, one can believe that at various points, notably after leaving school and on giving up his job at the hospital, reference to the psychological clinic might have prevented the destructive tendencies which later were so tragically apparent. It may take very little to divert the current and avert a tragedy. A few years back there was an old Hawaiian who served as *cantonnier* at the bottom of the Pali road in Honolulu, a very steep and winding highway. No matter if a hundred cars went by, he never failed to take off his hat and stand bareheaded until they passed him, so that people came to look for the old fellow's courteous salute and smile. But no one ever stopped. Then, to everyone's surprise, he was found hanging in his house at the bottom of the mountain

road. Perhaps if one white person had stopped and told him how much his courtesy meant to so many people, he would not have despaired of life and would have had courage to go on. But his constant proffer of good will seemed so completely ineffectual that at last he shut the door on the world and hanged himself.

Not every case displays a baffling complex of conditions underlying delinquency, and in many instances it is possible to find some outstanding etiological cues, as in the following examples: One little girl, after hospitalization for tuberculosis, became noisy and troublesome to the family and neighbors because of her constant plays for attention; a nine-year-old boy refused to learn to read because he would not compete with an older domineering brother who had learned to read very early; a daughter of poor parents, sent to a high-class boarding school on a scholarship, stole from her more privileged classmates; a dull, normal girl stole as an exhibitionist proceeding undertaken to gain the admiration of the other girls; a son of a minister disassociated himself from his father's profession by stealing and sent his father a stolen gift, so as to make him an unconscious partner in his guilt. It would be possible to go on indefinitely, each of the 16,000 cases in our files presenting its own combination of circumstances and causes, somewhat different from the rest. Nevertheless, different as these cases are, there may be discoverable some common foundations which indicate guiding principles in treatment.

The Treatment of Delinquents. The most thoroughgoing research of delinquency has been made by Healy and his associates. Their conclusions are summarized in one of their books on delinquency and its treatment.[6]

[6] Healy, William, and Others, *Reconstructing Behavior in Youth.*

They found the most unsatisfactory group for treatment to be the group of individuals who presented serious personality deviations and whose neurotic conflicts made them unstable and weak in inhibitory powers. Only 19 per cent of this group were nondelinquent during treatment, and for them Healy and Bronner can only recommend further study during long periods of segregation.[7]

The second group are those in whom the family presents such unwholesome conditions as to amount to a social pathology. Among these conditions are mentally abnormal, alcoholic, unscrupulous, hating, or thoroughly indifferent parents; inadequate income; crowded housing, and poor neighborhoods. Yet even such unfavorable circumstances were not compelling in every case, as siblings from the same families were nondelinquent. Good foster-home placement seems to be the only promising treatment in these cases, and Healy is careful to emphasize that the change must be a long one and that the child should not be returned to the conditions under which failure had formerly resulted. It is unlikely, however, that the home conditions can be changed radically in many cases.

There is, however, a third group in which therapeutic efforts directed both towards child and parents promise the best returns. The program includes full discussion with all concerned of the basic features of the whole situation, together with suggestive treatment involving guidance and recommendations, the success of which will largely depend on a proper worker-child and worker-parent relationship. Healy and Bronner conclude with regard to this group that "many families among these

[7] See Healy, William, and Bronner, Augusta F., *New Light on Delinquency and Its Treatment.*

where the social pathology is not excessive can be re-educated to establish new relationships with their children."

In gaining a good clinical relationship with the child, experience leads to the belief that the administration of mental tests makes one of the best introductions possible. Handled rightly, these tests make excellent ice-breakers. The discussion with the subject of test results in terms of personal assets and liabilities conveys an implication of interest and concern which goes a long way towards arousing the child's confidence in the psychologist, not only as a friend but as a very discerning person, thus setting the stage for an exploration of the child's deeper dissatisfactions. This is one of the reasons why the person who applies the test should also conduct the treatment. It is ruinous to good rapport to pass the child on from worker to worker and expect him to react with confidence to everyone. This passing-on process is in many cases very disturbing, and it makes the individual think that he is regarded as a case rather than as a person.

Re-education of Parents. Healy discusses, but apparently without too much enthusiasm, the matter of re-education of parents in groups through neighborhood councils under psychiatrically trained leadership. In California, Fenton has had successful experience with child-guidance conferences working in conjunction with schools. Since 1933, when appropriations were reduced, the plan has been under the direction of clinical psychologists alone, whereas previously psychiatrists and social workers co-operated. In these conferences individual problems are discussed with teachers and school principals.

Public co-ordinating councils represent another attempt to mobilize community resources in the treatment

of delinquency. All public agencies are represented in these councils, which constitute, according to Fenton, "a device which fosters an effective union of citizens and public servants for the improvement of the community life of children."

Where it seems impossible to change parental attitudes either through group conferences or by means of interviews with the social worker or the clinician, the most promising plan is, as Healy points out, foster-home placement. For one of the most thorough discussions of this far-reaching adaptive measure we may turn to Rogers' summary of experience in regard to this social expedient. Rogers sums up the advantages of completely changing the child's environment as "an opportunity of altering at one stroke all the aspects of family life which are so apt to create misbehavior, whether it be parental rejection or overindulgence, jealousy of brother or sister, conflict in the adjustment of the parents to one another, or any other factor or complex of factors which is awry in the family picture." [8]

Factors in Adjustment. The factors of most importance in successful adjustment seem to be as follows:

1. Children with a median age of about 10 years usually constitute the group chosen for placement, but the results show that the earlier the age, the greater the chances of successful adjustment. The assumption that this is due to the greater malleability of young children is questioned by Rogers, who attributes success in these cases more to the fact that the young child—and, it should be added, the foster parents—find it easier to make favorable emotional adjustments. The home has

[8] Rogers, Carl R., *The Clinical Treatment of the Problem Child*, Houghton Mifflin Company, Boston, 1939. See Chapter IV.

more chances of being a real home and not a boarding-house.

2. Success is more likely to result if the foster parents are carefully selected. Patience and sympathy with the child's situation are of great importance, but even more essential is the condition that the discipline be consistent, as only in this case can the child begin to feel emotionally secure. Warmth of affection and genuine interest and pride in the foster child's progress are also extremely important factors. In this regard Rogers suggests an "Attitudes Test" for foster parents.

3. "The more confirmed or serious the behavior, the less the chance of success." The question of placing sex delinquents is a doubtful one, as some workers are very much afraid of the contamination of other children. This matter depends, however, on the circumstances in the individual case. In some instances the sex experience may have been a single episode under conditions that do not indicate any special interest in erotic behavior; with other children there is very real danger of contamination, and the utmost care should be exercised. There are homes, however, in which the sex offender, unless too hardened, can be placed with advantage.

4. Rogers quotes Healy with regard to the unpromising prospects of success in placing psychopathic individuals or constitutional inferiors, and on this point all clinical psychologists seem to agree. Special institutional care or constant social surveillance seem to be the only measure possible in their case. These individuals' characteristics and conduct have been described in another chapter.

5. Intelligence does not seem to be a decisive factor in successful placement. Barker and Rappaport find that children slightly below the average frequently adjust well,

though, on the whole, borderline cases and mental defectives are unpromising. This may depend, however, on more careful selection of homes, as the experience of Bernstein at the Rome State School in New York State proves that a large number of high-grade feeble-minded can be placed successfully in rural homes. In all cases it is advisable, if possible, to obtain a measure of the foster parents' intelligence, as well as of that of the child. Obviously too much will be expected of the child if the parents are much above his intelligence level, while a bright child placed with dull parents is likely to try to take advantage of them and to be disliked and punished for "showing off."

6. The caliber and training of social workers who attempt home placement must be high, otherwise the process will be haphazard and likely to fail. Unfortunately, the ill effects of injudicious foster-home placements seem to be, in many cases, cumulative.

7. Children strongly attached to their own parents will rarely settle down satisfactorily in a foster home. The co-operation and support of the real parents is most essential in such cases.

8. Special consideration must be given to the matter of the presence of own children in the home. Wherever these children are of such an age that competition for parental affection and notice is likely to result, the situation is unfavorable.

9. Rogers advocates returning the child to his own home as soon as possible, but Healy seems to think that this is rarely possible and warns against setting up again for the individual the former unfavorable situation. The seriousness of the delinquency would seem to be another factor in deciding when to plan the return of the child.

References for Chapter XII and Chapter XIII

Brooks, Fowler D., and Shaffer, L. F., *Child Psychology,* Houghton Mifflin Company, Boston, 1937 (See Chapter XVII.)

Burt, Cyril, *The Young Delinquent,* D. Appleton-Century Company, Inc., New York, 1925

Glueck, S. Sheldon, and Glueck, Eleanor, *One Thousand Juvenile Delinquents: Their Treatment by Court and Clinic,* Harvard University Press, Cambridge, 1934

Goddard, H. H., *Juvenile Delinquency,* Dodd, Mead & Company, New York, 1921

Hartshorne, H., and May, Mark A., *Studies in Deceit,* The Macmillan Company, New York, 1928

Healy, William, *The Individual Delinquent,* Little, Brown & Company, Boston, 1915

——, *Mental Conflicts and Misconduct,* Little, Brown & Company, Boston, 1917

——, *Personality in Formation and Action,* W. W. Norton & Company, Inc., New York, 1938

Healy, William, and Bronner, Augusta F., *New Light on Delinquency and Its Treatment,* Yale University Press, New Haven, 1936

Healy, William, and Others, *Reconstructing Behavior in Youth,* Alfred A. Knopf, Inc., New York, 1929

Hirsch, Nathaniel D. M., *Dynamic Causes of Juvenile Crime,* Sci-Art Publishers, Cambridge, Mass., 1937

Katz, Daniel, and Schanck, Richard L., *Social Psychology,* John Wiley & Sons, Inc., New York, 1938 (See Chapter IX.)

Louttit, C. M., *Clinical Psychology,* Harper & Brothers, New York, 1936 (See Chapter X.)

Mowrer, H. R., *Personality Adjustment and Domestic Discord,* American Book Company, New York, 1935

Murphy, Gardner; Murphy, L. B.; and Newcomb, T. M., *Experimental Social Psychology,* Harper & Brothers, New York, 1937

Reinhardt, James M., *Social Psychology,* J. B. Lippincott Company, Philadelphia, 1938 (See Chapter VII.)

Rogers, Carl R., *The Clinical Treatment of the Problem Child,* Houghton Mifflin Company, Boston, 1939

Shaffer, L. F., *The Psychology of Adjustment,* Houghton Mifflin Company, Boston, 1936 (See Chapter VI.)

Shaw, Clifford R., and Others, *Delinquency Areas,* University of Chicago Press, 1929

Shaw, Clifford, and McKay, H. D., "Social Factors in Juvenile Delinquency" in *Report on the Causes of Crime,* Vol. 2, National Commission on Law Observance and Enforcement, Washington, 1931

Symonds, P. M., *Diagnosing Personality and Conduct,* D. Appleton-Century Company, Inc., New York, 1931

——, *Psychological Diagnosis in Social Adjustment,* American Book Company, New York, 1934 (See Chapter III.)

Thrasher, F. M., *The Gang,* University of Chicago Press, 1927

Van Waters, Miriam, *Parents on Probation,* New Republic, Inc., New York, 1927

Wallin, J. E. Wallace, *Mental Hygiene and Social Adjustment,* The Macmillan Company, New York, 1936

Zorbaugh, Harvey, *Gold Coast and Slum,* University of Chicago Press, 1929

CHAPTER XIV

The Criminal

In extremely primitive societies, where material possessions are at a minimum, where there is little or no home life, and where family ties are loose (according to our notions), there are comparatively few social rebels. Nevertheless, there are good and bad natives, and forms of social punishment are by no means lacking. It would seem, therefore, that the problem of crime centers closely about the personality of the individual. Circumstances, surroundings, and upbringing are all vastly important, but some natures react to them quite differently from others. Of late years new techniques in "depth psychology" have been devised, so that the suggested basis of criminal motivation has been greatly widened. Yet the etiology of crime is in certain cases extremely perplexing. The summation of environmental factors is comparatively easy, but why some men prove immune to these influences and others succumb is a most puzzling problem.

Preventive and Curative Methods. Between the juvenile delinquent and the adult criminal there is at least one important difference: in dealing with the youthful offender, the aim is preventive; in the case of the adult, it is curative. We must remember also that the criminal is kept under punitive restraint to a much greater degree than the juvenile is. A great deal has been said in the past about fitting the punishment to the criminal rather than to the crime, but unfortunately the applica-

tion of this principle is extremely difficult. How can we fit the punishment to the criminal when we know so little about him? In spite of all that is known of the various causes of crime, there is rarely one that the psychologist can put his finger on as all-explanatory in a given case. Even in the keenest diagnosis there is usually an uncertain element. Until we can say that we fully understand the criminal and his motivation, it is rather presumptuous to speak of punishment that fits his nature.

Crime and Punishment. It is well to remember also that punishment is an inescapable feature in the treatment of the criminal. The psychologist knows that fear is one of the most powerful and ever-present emotions. Probably the most courageous man could list quite a number of things of which he is afraid. Fear is the greatest deterrent that we know. The mistake made by the disciplinary martinet is in thinking that it is the *only* deterrent. There are other positive ways of dealing with antisocial individuals, and if these means can be organized effectively, they may exert a more permanent influence in rehabilitation. Yet, in the last resort, many of these means are also founded on fear—fear of the loss of family prestige or of social approval and the like. Remove the fear, lessen it by habituating the criminal to the punishment, and it no longer acts as a deterrent. Those who would rely on it too completely must be prepared to reckon with the law of diminishing returns. The punishment can be kept effective only by increasing its severity, until it finally becomes cruel and inhuman, so that its application itself constitutes a crime. When this stage is reached, both judge and offender are equally brutalized.

Here again, as in so many other matters, common sense bids us take the middle course. Sometimes we cannot af-

ford to wait for the slow development of the more positive factors; the appeal to the so-called moral sense is ineffective, and we must rely on cruder, more immediate modes of punishment or restraint. He is a poor prison psychologist who overlooks the salutary effect of a well-founded fear of consequences as a most direct therapeutic factor. He must, however, oppose the tendency to make it the sole implement of reform.

Crime and misconduct almost invariably are the culminating points of a long sequence of causal events. If the psychologist were wise enough, or if he had the opportunity to control behavior before it became actual misconduct, perhaps punishment would not be necessary. But when an acute crisis comes, critical measures are called for. No one, certainly not the psychologist, would be fool enough to attempt to reason with a man who was running amuck. The only sensible thing to do is to knock him down and reason with him afterwards. In other words, punishment is often necessary, and restraint is one of its effective forms. The principle holds good also with children. There are occasions when punishment of some kind is the only deterrent, and the wise parent will use it. The wisdom, however, lies in knowing when it is necessary and what minimum amount will be effective. "One ounce of prevention," says the adage, "is worth a ton of cure," but this has no application when the disease or condition that calls for cure is already present. The wrongdoer is not really helped by spineless leniency.

Respect for Law in Primitive Societies. Elsewhere we have already tried to account for the fact that though the life of savages is full of regulation and taboo, respect for tribal custom and law is very general. The two most potent considerations seem to be that, generally speaking,

retribution is both immediate and inescapable. A member of a small community has but little chance of concealing his misconduct, and the conditions of everyday life are such that if he be delinquent, the weight of social disapprobation is felt immediately. Unfortunately for the progress of primitive peoples, innovation of any kind meets with the same disapproval as crime. It is not unlikely, therefore, that crime is part of the price we pay for social experiment and progress. If life were circumscribed by custom and if the consequences of departure from the beaten path were sudden, inevitable, and severe, it would only rarely be the case that social protest would occur. Those who did rebel would be only the most contumacious individuals or those driven by psychopathic compulsion, and they would be unlikely to gain a following. In short, we should have no criminals but also no reformers.

It would seem, therefore, that the wisest social system is that which uses a judicious mixture of directly and indirectly deterrent treatment of its offenders, one that recognizes both urgency and expediency in its treatment of cases. Its ideal would be to use such an exact set of balances that enough and no more punishment is allotted than is sufficient, when other means fail, to act as a deterrent. This is, of course, an ideal and we must be satisfied with an approximation to our goal. In other words, we should say "Go, and sin no more" only when there is a reasonable chance that righteousness is within the sinner's reach.

Punitive Aspects in Criminology. The most humane view to take with regard to the criminal is that rehabilitation in society is the sole consideration; but this overlooks the psychological effect of sanctions on the rest of

society. It would be fine if we could get rid of fear as a governing principle, but neither social nor individual survival would be possible without it. Social regulation, if it is to be effective, must be supported by penalties. The man who has murdered his wife in a fit of extreme jealousy would probably be quite a good risk in society. The chances of his repeating the crime would probably be very slight, and apart from this one crime he may have been an estimable member of the community. But to allow him to go scot-free would be to remove one of the chief hazards that attend impulsive, ill-considered behavior in social relations. Without the deterring effect of punishment, crimes of violence would become common.

This is the great problem of criminology—how to extend humane and understanding treatment to the criminal and at the same time give to the community in general the protection it requires. If this difficulty could be solved, then it would be comparatively easy to fix the length of sentence that should be allotted to any crime. But there is no formula that can be applied; and there still remains the problem of understanding the criminal, which, as we have seen, is a very difficult matter. For the present, one of the most useful guides in our treatment of the offender is a more scientific evaluation of his past record.

Psychological Approach in Sentence Fixing. The modern way of dealing with offenders is to take the sentence-fixing responsibility out of the hands of the trial judge and give it to a Prison Board, which also grants parole. Where this system is in vogue, the judge has to decide, with or without the assistance of a jury, the question of the guilt of the accused, and to pronounce the maximum sentence as fixed by statute. Within a stated

time after incarceration, the Prison Board determines the minimum sentence. But before it does so, the whole available social history of the prisoner is studied, together with the circumstances of the crime. Examinations are given by either the psychologist or the psychiatrist to determine the prisoner's mental status, personal history, and characteristics. In the light of these findings, the facts of the case are interpreted so as to present to the Board as complete an understanding of the criminal as possible. Along with this interpretation goes a recommendation as to the length of the minimum sentence. After acting upon this report, the Board in some communities sends the proposed sentence to the trial judge for confirmation or otherwise. This delegation of final authority to the judge would seem to be a weak link in the procedure, although some take the point of view that the trial judge, having seen as well as heard all the witnesses and having had the prisoner under the closest observation during the court proceedings, is best qualified to allot a proper sentence. On the other hand, the judge has seen the prisoner only under the stress and strain of the trial and has no adequate picture of the social history.

The psychologist has an excellent opportunity to observe the prisoner not only during mental examination but also through interviews, and he should be able to obtain considerable understanding as to the prisoner's personality and attitudes. If he has at his command some means of summarizing the salient facts of the prisoner's history and his habits, he is in a good strategic position to make worth-while recommendations.

Parole Prediction Tables. There have been several attempts made to obtain a quantitative summation of the various factors in crime, mainly with the idea of esti-

mating the individual's chances of parole. One of the best known of these efforts is the prediction tables arranged by Burgess,[1] who was a member of a committee which reported in 1928 on the workings of the indeterminate sentence law in Illinois.

This investigator took into account no less than 22 factors in the prisoner's record, including such items as the parental status, the type of offender, the previous criminal record, his behavior in prison, his mental age, and personality type. Less important factors also included were the county from which the prisoner was committed, his nationality, the size of his community, and whether he was resident or transient. The violation rate of parolees was then compared for each of three penal institutions in the state of Illinois.

Conclusions from Burgess's Study. Interesting though in some instances rather trite conclusions of this study may be listed as follows:

1. There was a low rate of parole violation in cases of murder, manslaughter, and sex offenses, as against a high rate for fraud, forgery, and burglary.

2. A small ratio of violations prevailed among recent immigrants, such as Italian and Poles, as against a high rate for Irish, British, and German.

3. Men who as children came from "broken homes" contributed a much higher percentage of parole violators.

4. Single men as violators were more numerous than married men.

5. Habitual or professional criminals are poor risks for parole and first offenders are good risks, the percentage of serious

[1] Burgess, E. W., and Others, *The Workings of the Indeterminate Sentence Law and the Parole System in Illinois,* Committee Report, 1928.

violations being five times as great for the first class as the second.

6. Hobos, ne'er-do-wells, and drug addicts have extremely high violation rates.

7. Men with previous criminal records are more liable to violate parole.

8. Men in regular employment have a very low percentage of violation.

9. A bad record in prison is a very poor augury for success outside.

10. Very young men and men over forty years of age have low rates of parole violation.

11. Those inferior in intelligence had a lower rate of violation than men of superior or average intelligence.

12. The egocentric personalities had a high rate of violation, the unstable personalities a low rate. Nevertheless, the psychiatric prognosis agreed very well with the subsequent history.

The Burgess Method. Burgess then calculated the average percentages for the three institutions and combined all factors into one prognostic table. Each classification had, of course, its subclasses. For example, the previous work record had four subclasses: no previous record, casual work, irregular work, and regular work. The percentage of men violating parole in each subclass was then compared with the average violation rate for the whole institution. If a man fell into a subclass with a less-than-average violation rate, he was credited with 1 point. (21 factors were taken, so that 21 points was the most favorable rating.) Burgess then divided the men into nine groups, according to expectation of breaking parole, the violation rate ranging from 1.5 per cent to 76 per cent for the various groups.

Criticism of the Burgess method can be summarized as follows:

1. Official records are often incomplete and unreliable.

2. Men avoiding arrest during a period of parole are called "successes," even though their aftercareers may be criminal.

3. Some classifications are too subjective; for example, "social type," "ne'er-do-well."

4. No measure of reliability was given, so that it was impossible to tell whether another investigator would obtain the same figures.

5. There was no weighting of factors. Previous criminal record was treated as of no more importance than the county from which the man was committed.

The Glueck Tables. The Gluecks followed this study by Burgess with a similar attempt to arrange prediction tables, using as data the records of 510 men from the Massachusetts Reformatory.[2] They eliminated 4 of the apparently least significant factors used by Burgess, reducing their number to 17. These were then divided into four categories. Six of the factors had to do with the parole and the postparole behavior and therefore could not be used in constructing prediction tables. The system used by the Gluecks weighted each factor according to its importance by adding the percentages of failures on parole of the subclasses in which the man fell. The lowest score then had the best chance of success.

Vold's criticism[3] of the Gluecks' method is that it places too heavy a weighting upon the past records, as if it were based on the assumption "once a criminal, always a criminal." In any event, it is arithmetically cumbrous, and it is very difficult to explain the basis of the method to the members of an ordinary Prison Board.

[2] Glueck, S. Sheldon, and Glueck, Eleanor, *500 Criminal Careers.*

[3] See Vold, George B., *Prediction Methods and Parole,* p. 18. See also Laune, Ferris F., *Predicting Criminality.*

Statistical Methods Inadequate. Vold's own study involved a very thorough statistical survey of a number of cases. One of the outstanding conclusions that seems to come inevitably from this study—though, rather naturally, Vold does not mention it—is that statistical methods *do not apply*. The 17 preparole factors with highest coefficient of mean square contingency (C) were used as the basis of prediction tables, as were also the 17 lowest preparole factors. These latter included such items as weight, height, and state or county where born, factors which obviously could not have much importance in determining tendency to violate parole. The fact that the use of these lowest factors gave results almost as good as the use of the 17 highest should have shown at once that the results had little or no validity.

The Gluecks also had used C values, and their coefficients varied somewhat from Vold's. For example, Vold found a C of .283 between "Previous Criminal Record" and "Outcome on Parole," whereas the Glueck study gives the coefficient as .33.[4] It is noteworthy also that the two next highest C's in Vold's list were for "Mental Status at Time of Offense" and "County from Which Received" (.241 and .237, respectively).

Difficulties in Weighting Factors. The difficulties in the way of giving a quantitative summary of the factors that are contributory to crime are several. The first is that information on some of the categories must be collected from the prisoner himself and is hence extremely likely to be incomplete or unreliable. The second is that to some extent ratings on such factors as "Social Type"

[4] The coefficient of contingency between parole and postparole criminality in the Glueck study rose to .47. See pp. 280-281 of their book for criticisms of the Burgess investigation.

are likely to be too subjective. A third drawback is the one already mentioned in the discussion of the causation of juvenile delinquency, namely, that any uniform or set evaluation of factors disregards the most important fact that in a given case a certain factor, though present in the great majority of prisoners or parole violators, may have little or no bearing as regards this individual. For example, drinking to excess may have nothing whatever to do with a conviction for murder or for forgery if the crime was committed when the man was sober. A skilled burglar who never drinks is no better risk on parole than another burglar who is also alcoholic. Similarly, the violation rate is much greater for single men than for married men, but on the other hand a nagging, ill-tempered wife in an individual case may have been a directly contributory factor to criminality. Hence it is difficult to use any uniform system of weighting.

As previously noted, the chief argument for the use of some kind of index of criminality is the fact that sentences are already being fixed on the basis of the criminal's past record and it would be better to have some quantitative evaluation of that record than none. Objections to the scheme described below can be met, at least partially, by the frank acknowledgment that the system of weighting and summation of factors is only approximate, though just as useful as one based on a very refined but inapplicable statistical procedure. In view of this acknowledgment, it is obvious that a criminal index, when obtained, must be reviewed and interpreted in the light of all the individual circumstances. With these two reservations in mind, we can proceed with a description of the system that has been in use in Hawaii for several years.

The Criminal Index. The factors chosen in Hawaii are mentioned in almost every study of crime and its causation, and they follow closely those listed in Chapter XIII as being also among the contributory causes of juvenile delinquency.

Criminal Index

CATEGORY	FACTOR	WEIGHTING
I. Juvenile Record	(1) Previous Commitment to Industrial School or Other Juvenile Correctional Institution	3
	(2) Nature of Offense *—	
	If serious	2
	Less serious	1
	(3) Escapes or Violations of Parole	1
	If more than one	2
	(4) Inmate of Noncorrectional Institution	1
II. Police Court Record	(5) Single Conviction *—with imprisonment	1
	Two Convictions—with fines only	1
	Three Convictions	2
	More than Three Convictions	3
	Previous Suspended Sentences	1-2

* Juvenile offenses can be classified as serious or otherwise. Incorrigibility, repeated truancy, petty theft are minor; malicious conversion, burglary, sex assault are considered serious.

* Minor traffic offenses may be disregarded.

CATEGORY	FACTOR	WEIGHTING
III. Prison Record	(6) One Previous Prison Sentence*	3
	Two or Three Previous Sentences or Parole Violation	4-6
	Four or More Previous Sentences	7-9
	(7) Nature of Crime (present conviction)	
	Murder, rape (if any previous crime record)**	9
	Forgery, carnal abuse of child under 12	6
	Incest, burglary, first-degree robbery, assault with deadly weapon	5
	Second-degree robbery, manslaughter, malicious conversion, sodomy, larceny	3
	Intercourse with female under 16	1-2
	(8) Conduct in Prison—Escapes, Insubordination	1-3

* The range of 3 to 9 points in the weighting is to allow some leeway in the evaluation of the record by the psychologist. Intermediate markings can be given. If there is only one previous sentence, but given for a serious crime, a weighting above 6 may be allotted. Minor violations of parole, such as failure to report, are scored 1.

** Cases of murder and rape, unless there is a previous criminal record, should not be given a criminal index. These are crimes where society demands that the punishment fit the crime rather than the criminal.

CATEGORY	FACTOR	WEIGHTING
	(9) Duration of Last Parole	
	Convicted within 1 year of parole	3
	Convicted within 1 to 2 years	2
	Convicted within more than 2 years	1
IV. Habits	(10) Alcoholism—Moderate	1-2
	Excessive	3
	(11) Drug Addiction	3-5
	(12) Sexual Immorality	
	Frequents prostitutes	1-2
	Homosexual practices	3
	(13) Gambling	1-3
	(14) Underworld Associations	2-3
V. Work Record	(15) Casual or Intermittent Work	1
	Partly Dependent	2
	Hobo or No Work Record	3
VI. Education	(16) Illiterate	2
	Barely Literate	1
VII. Mental Status	(17) Low Ability (if recidivist or crime of violence)	
	Mental age, 11 years	1
	Mental age, 10 years	2
	Mental age, 9 years or below	3
	(18) High Mental Age (above 14 years) with Skilled Crimes (forgery, burglary, embezzlement)	1-3

CATEGORY		FACTOR	WEIGHTING
VIII. Emotional Type	(19)	Impulsive, Suggestible, Unstable	1-2
		Psychopathic, Egocentric, Constitutional Inferior	3
IX. Family Conditions	(20)	Single, Separated, or Divorced	1
	(21)	Family Dependent	1
		Family Delinquent or Criminal *	2
	(22)	Lives in Poor or Crowded Area	1
X. Age	(23)	21 to 25 Years	1
		26 to 40 Years (if recidivist)	2
		40 to 50 Years	1
XI. Nationality	(24)	Native-born of Foreign Parentage *	1-2
XII. Prognosis *	(25)	Based on Unsatisfactory Attitude—Lying, insincerity, aggressiveness	1-3

* This refers to delinquency among parents or siblings or, if an older married man, to own children.

* In Hawaii Puerto Ricans are the worst risks, as they have as a group the worst crime record. Portuguese, part Hawaiians, and Filipinos come next in order of criminality and are given the lower weighting of 1. For mainland United States, local ratings for criminality will determine the allotment.

* The psychologist's or psychiatrist's estimate can be given weight here, based on the prisoner's behavior and atittude in the interview.

The scale as arranged is frankly based on experience rather than statistics and is more or less subjective. Because of this, rather wide interpretive limits are set. The worst possible rating, assuming that the highest weighting is earned under each category, would be 71. Experience has shown that men with indices over 32 are habitual professional criminals for whom maximum restraint is necessary; those with indices from 26 to 32 are also very poor community risks and will require long terms. The group from 19 to 25 are more hopeful, but this rating should be interpreted in relation to the prisoner's age: if he is young and his index is towards the upper limit, he is not a promising case, as it is likely that he has used most of the time available to him for accumulating a criminal record. First offenders with indices below 19 are to be considered good community risks.

Typical Cases. *Habitual Offenders.* In order to illustrate the application of the criminal index, two cases are scored here.

Case No. 1 was committed in 1913 to the Boys' Industrial School (3) for the more serious crime of burglary (2). He had a record of one escape (1). He had no police court record but had one previous conviction and two parole violations (6). He had escaped once also, and had been punished for fighting with a fellow prisoner (2). His last conviction was for burglary (5). His last parole period lasted $2\frac{1}{2}$ years without offense (1). He drinks to excess (3), visits prostitutes occasionally (1). His work was intermittent (1), and his education reached second-standard level, so that he is practically illiterate (2). His mental status per Binet was below 9 years (3), but his planning capacity and temperamental stability according to Porteus Maze score of $12\frac{1}{2}$ years was satisfactory (0). He was unmarried (1), aged 33 years (2). The prognosis based on the interview was

fairly bad (2). The total weighting of factors was 35. This places him just within the habitual criminal division.

It is noteworthy that the characterization given Case No. 1 by the prison psychologist was "extremely dull, weak, criminal type." This case illustrates a point previously referred to, namely, that a low mental level associated with repeated offenses is a very bad augury for rehabilitation. The prison record of this man shows an inability to adjust himself to discipline and order.

Case No. 2 was committed at 14 years of age to the Boys' Industrial School (3) for theft of a bicycle (1). There was no police court record, but he had had one previous sentence (3) and had committed a minor theft while on parole (1). The crime for which he was now in prison was a burglary in which he had stolen a cash register (5). His conduct in prison had not been very satisfactory, as there was a record of one escape (2). The length of time on parole before the last conviction was $3\frac{1}{2}$ years (1). He drinks to excess (3), visits prostitutes occasionally (1). He has a record of intermittent work (1), and he is barely literate (1). His mental status is rather low, Binet between 9 and 10 (2). He is fairly well stabilized (Porteus Maze $12\frac{1}{2}$) (0). He is unmarried (1) and is 45 years of age (1). His nationality is part Hawaiian (1), and the psychologist's prognosis was not good (2). The total weighting was 29, which puts him in Class C.

Case No. 2 illustrates a somewhat less serious type of criminality. He is a poor community risk, but not so serious a case as the prisoner described as Case No. 1.

Less Serious Cases. Let us consider two less serious cases:

Case No. 3 was a man who had no juvenile court record. For ten years after leaving his father's farm he was in the army,

where he obtained a good record. After his discharge, however, he became, according to his own account, irresponsible and depraved. He consorted habitually with underworld characters (3), and drank to excess (3). Gambling also took up a fair share of his time (2). While driving a taxi, he stole $130 from a passenger who had taken the money from a café and who was induced by the prisoner to hide it in the taxi. He was given a 5-year suspended sentence for larceny (3), but while on probation had 5 police court convictions (3), being fined for drunkenness and given a suspended sentence (1) for vagrancy. He was a single man (1), and he frequented prostitutes (2) when he was not living in common-law relationship with a woman. His work record, due probably to the fact that he was often drunk for as long as a week at a time, was poor (2). Mentally he was bright (17 years 1 month per Binet), but in the Maze test he showed nervous impulsive behavior with mental confusion (2). The prognosis by the psychologist was "success on parole by no means certain, will need considerable aid and supervision" (2). The criminal index, obtained by adding the weightings of the factors, was 24.

Case No. 3 illustrates a prisoner who would be classified as Class B. It also shows how factors other than past record have an influence on the criminal index.

Case No. 4 illustrates a further application of the criminal index.

Case No. 4 was a Chinese Hawaiian (1) 28 years of age, whose record was bad (2). In 1929 he was convicted with 9 other men of a particularly brutal sexual assault on a girl (8). For this crime, however, he served only six months before being paroled. In 1932 he was one of the defendants in the famous Massie case, but after a mistrial the case was dropped. Two years after, his parole was revoked on a charge of fornication (1). He used to drink to excess (3), had bad associates (3) and gambled (2). His work record was very poor (2), but

his education and mentality were satisfactory. There was one record of infraction of rules with punishment in the prison (1). The prognosis in his case was uncertain (1). His attitude was at one time described as sullen (1). The criminal index was 25.

Crime Lines and Time Lines. The most illuminating of all devices to show at a glance the salient features of the prisoner's record is one which the author has recently adopted and which is called a *chronological crime line.* The time line as a graphic representation of a sequence of events in history or of the temporal relation of geological or archaeological periods is well known, but apparently no one has suggested its use as a visual portrayal of a criminal's history.

A crime line may be constructed as follows: The years from the first recorded offense up to the present are first marked on a scale, offenses being represented by solid bars and periods of incarceration by striped areas. The prison psychologist or Parole Board member can thus see at a glance the summarized criminal record. To the right of the line the various crimes or parole violations are recorded, making the different patterns at once apparent. Three actual crime lines are illustrated in figures 4, 5, and 6, pages 373 to 375. They may be interpreted thus:

Crime Line No. 1—Variation in Crimes. This represents an individual who began his criminal career at the age of 17 years with the crime of burglary. There were three crimes of this nature, separated by gradually increasing periods of parole, until he committed an offense of an entirely different nature. This was a rape committed in company with two other men, the group impersonating National Guardsmen and pretending to arrest a couple parked in a military reserve, the woman's companion being taken away while the assault was committed. The fact that there was no crime of burglary for a period of six

years indicates, it would seem, that the man should be considered as a sex offender and should be punished without particular reference to his former offenses of burglary. The work record in these six years was satisfactory.

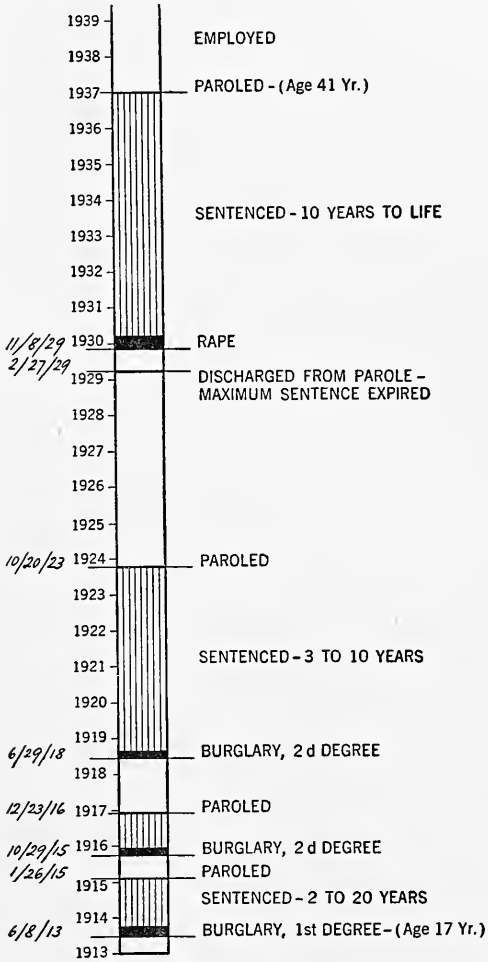
Crime Line No. 2—Psychotic Personality. The next case shows a very dissimilar pattern, in some respects the opposite of the one preceding. It will be seen that the periods of parole get progressively shorter. The offenses are varied, and they were committed over a wide range of territory. This man stole cars in California, Florida, and Utah, and he passed worthless checks in Texas, Florida, and Hawaii. The average length of time at freedom for the last three periods was 8 months. The expectation is that if he is released we can expect another crime within a similarly short period. The pattern in itself suggests a poorly balanced personality, and it is not at all surprising to find a record of syphilis and psychosis.

It would be interesting to compare with this crime line those of other psychotic personalities.

Crime Line No. 3—Forgery. The third case shows what may be called the typical forger's crime line. There seems to be no marked pattern as regards length of time on parole. There was one period of $4\frac{1}{2}$ years, one of $3\frac{1}{2}$ years, and one of 2 years at liberty, with one very short period of 7 months. The last period of 2 years is exactly what might have been expected by averaging the last three parole periods. Incidentally, the record shows undue leniency. Obviously, if his third term of imprisonment had been extended somewhat, there is a possibility that the next offense would not have come so quickly.

As a general thing this principle might be laid down as a guide for Prison Boards: if the parole periods are lengthened, the sentences should become lighter. If the reverse is true and the periods without offenses are getting shorter, the sentences should be lengthened. This

principle, of course, has no universal application, as the circumstances of each crime should be taken into account, as well as the characteristics of the prisoner.



PRISON AND PAROLE RECORD, INDIVIDUAL TIME LINE

FIGURE 4. Crime Line No. 1

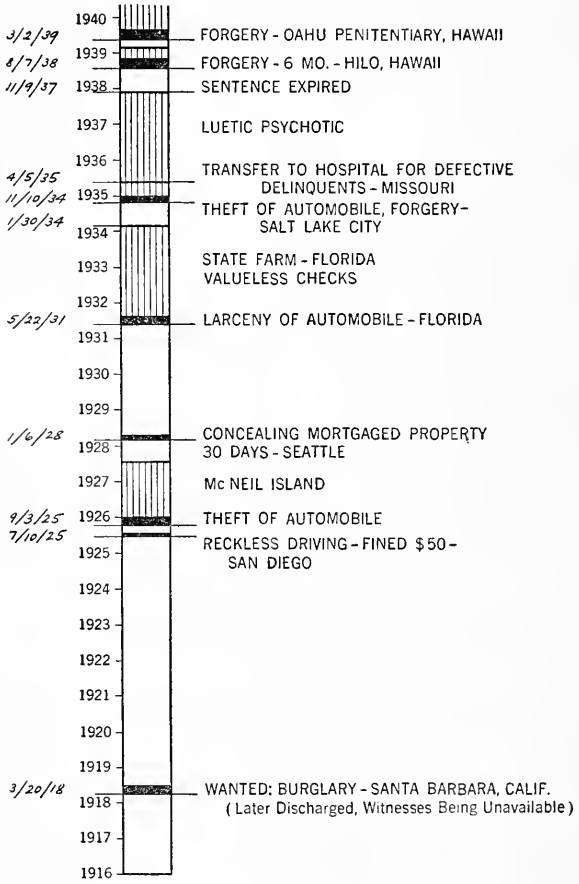
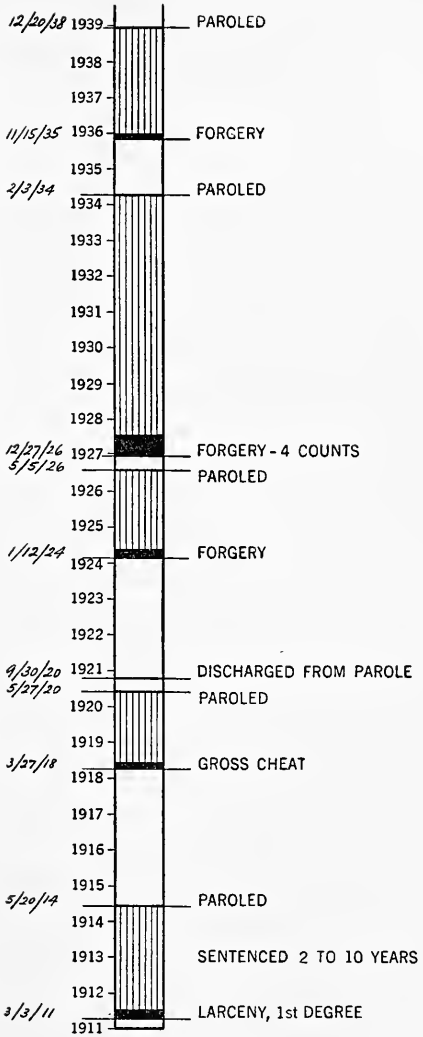


FIGURE 5. Crime Line No. 2



PRISON AND PAROLE RECORD, INDIVIDUAL TIME LINE

FIGURE 6. Crime Line No. 3

References for Chapter XIV

Bruce, A. A.; Burgess, E. W.; and Harno, A. J., *The Workings of the Indeterminate Sentence Law and the Parole System in Illinois,* Springfield, Ill., 1928 (See Chapter 30.)

Burgess, E. W., "Is Prediction Feasible in Social Work?" *Social Forces,* June, 1929

——, "Parole and Parole Prediction," *Journal of Criminal Law and Criminology,* Vol. 27, 1936

Glueck, S. Sheldon, and Glueck, Eleanor, *500 Criminal Careers,* Alfred A. Knopf, Inc., New York, 1930

Goring, Charles, *The English Convict,* H. M. Stationery Office, London, 1919

Hart, Hornell, "Predicting Parole Success," *Journal of Criminal Law and Criminology,* Vol. 14, 1923

Healy, William, *Mental Conflicts and Misconduct,* Little, Brown & Company, Boston, 1917

Lanne, William F., "Parole Prediction as a Science," *Journal of Criminal Law and Criminology,* Vol. 26, 1935

Laune, Ferris F., *Predicting Criminality,* Studies in the Social Sciences, No. 1, Northwestern University, Evanston, Ill., 1936

Murchison, Carl, *Criminal Intelligence,* Clark University Press, Worcester, Mass., 1926

Sanders, B. S., "Testing Parole Predictions," *Proceedings of the American Prison Association,* 1935 (See pp. 222-233.)

Vold, George B., *Prediction Methods and Parole,* Sociological Press, Hanover, N. H., 1931

CHAPTER XV

Examination of Young Children *

To those who have been engaged in psychological consulting for many years there are some things which have become so commonplace that they seem hardly worth mentioning in a book on clinical practices. Yet because they are always included in the routine, they are evidently of extreme importance and should be referred to briefly. One of these essential considerations in child guidance is the preparation of the child and parent for the visit to the clinic.

First Contact of Parent and Child with the Clinic. Because of the press of work, it is very necessary for the psychologist to know beforehand why the child is being brought for examination and for the parent to have some understanding of the purpose and value of psychological procedure. If the proper information is forthcoming, the clinic staff may be saved the unnecessary burden of seeing a child who is brought merely to confirm its fond parents' belief that they have a prodigy to exhibit or to satisfy their idle desire to know whether their offspring compares favorably with Mrs. So-and-so's child, who has been to the clinic. It is true that problems of adjustment may be just as serious among bright children as among dull, and that checks on mental development may be as useful as routine physical examinations; but as a rule, with a crowded appointment book, it is economical of

* This chapter was contributed in large part by Dr. Mary Hunter.

time and effort if the consultations are confined to those who have a genuine concern for their children's social and personal development.

Obviously, then, the duty of the person who makes the initial contact with the parent is a responsible one. The secretary of the clinic, who makes the appointments, should have some psychological training to the extent, at least, of being familiar with the classes of problems dealt with, the value and limitations of the tests in use, the time required for examination and interview, and the proper relation of the work of the clinic to that of other agencies, clinics, and institutions. She must exercise good judgment in deciding the comparative urgency of cases, so as to be able to place them in proper order on the calendar. Considerable tact will also be needful, as each parent is liable to think that her child's problem is unique and pressing. In a clinic such as that at the University of Hawaii, which offers a general psychological service and with a staff of four professional workers carries about 1500 consultations and examinations annually, the task of the appointment secretary is not an easy one. In addition to serving as office manager and intake clerk, she must do her best to maintain good relations with institutional heads, social workers, school principals, probation officers, and parents.

It is in dealing with the parents that she will require all the practical psychology she can muster. A ring comes over the telephone and a voice announces that she wants a child examined at the Psychological Clinic. After the formalities of obtaining the child's name, sex, age, and school grade, and the parents' names and address—these inquiries being reduced for obvious reasons to a minimum —comes the delicate task of finding out why the child is

to be brought to the clinic. It is quite safe to put the question directly to a social worker or a probation officer, but to ask the parent bluntly what is wrong with the child may create a bad initial impression.

We cannot give any precise, cut-and-dried formula that the secretary should use in obtaining this information. With a tactful person possessing a good telephone manner the recognition of a possibly delicate situation is often enough. The approach may be somewhat along these lines: "Before we can accept children for examination, we like to know something about them. Could you tell me anything about —— (using the child's given name) that would give us an idea as to what member of our staff should see him? Perhaps there is something about the child that makes you think we can be of some help to you?"

If in response the parent cheerfully confesses that there is nothing she is worried about, she should be gently told that the appointment book is so full that until the pressure of work diminishes it would be quite impossible for the psychologist to see the child, since all available time is taken up with dealing with problem cases. The sting of refusal may then be blunted by a polite statement to the effect that it is a relief to know that in this case, at least, there is no problem and therefore no cause for worry.

Requests for Determination of I.Q. Another situation which must be tactfully yet firmly dealt with is that which arises when dealing with a social worker who has had some experience, mainly with psychiatric clinics, and who makes her request in these terms: "I want a psychometric examination on So-and-so." This means in effect that what is required is a Binet I.Q. Then it is necessary

to explain that the clinic does not engage in such limited mental testing and that I.Q.'s are never quoted except in cases where there could be no possible misinterpretation of the figures. If psychologists generally would take this stand, their work would be held in much greater respect. The diagnosis should be a diagnosis and not a single I.Q. nor even a set of I.Q.'s. If necessary, the level of intelligence may be quoted in general terms, and only rarely as an unqualified I.Q.

Conditions for Testing. If, however, the child is accepted for examination, then his entrance into and first view of the clinic is of some importance. Comfortable chairs for the adults and a set of interesting picture books or a few toys for the young child are necessary furnishings in the waiting room. The secretary's reception of parent and child can do much towards creating the right setting for the examination. For older persons who must wait for an interview suitable reading matter should be provided. The appointments, however, should be so spaced as to diminish delay as much as possible. Nothing can be more mentally depressing than to be one of a nondescript group sitting in a cheerless anteroom waiting for the unknown to happen.

The foregoing discussion is relevant only to the situation preliminary to the actual examination, which in itself is fraught with all kinds of emotional possibilities. In situations which involve individual contacts we cannot afford to neglect the influence of these emotional factors. As adults we continually order our activities in relation to what we call our state of mind, postponing our letter writing, our social calls, our business decisions until we feel like coping with the particular situation. When we are compelled by circumstances to work according to a

time schedule not of our own arranging, we still make every effort to prepare ourselves for action, dismissing every distracting circumstance from our minds, so that we can give our whole attention to the task in hand.

The Child's Emotional Set. If this is true of adults who have by long experience discovered how to judge their frame of mind and to a large extent control internal environmental factors, how much more careful should the psychologist be in introducing a very young child to a situation which may have extremely disconcerting and even terrifying elements for him. Observations of the effects of emotion on performance are so commonplace that emphasis on the need for preparing the child for examination and conducting it under minimum conditions of stress would seem to be unnecessary. Unfortunately, this is far from true. For those who have it, the art of managing young children is worth as much as the most thorough acquaintance with tests. The child and not the test is the core of the situation, but some examiners have not yet learned to appreciate this most important fact.

The student who is planning to specialize in the testing of little children would do well to pay a visit to the office of a successful children's photographer. He will find the room furnished simply with the sort of equipment the child is likely to have in the room in which he plays at home. There will be one or two attractive toys within easy sight and reach, and the child is left, as far as possible, to his own devices. The photographer makes friends with the child and attempts nothing else until the youngster feels at ease and starts to play. He watches him closely, noticing every expression and activity, until he senses that the child is relaxed and behaving in characteristic fashion. Then the shutter release is snapped. The

whole process of taking the picture may require half an hour or even longer, but the results justify the expenditure of time.

This is exactly the attitude and the aim which must be adopted by the psychologist dealing with preschool children. He must somehow record an accurate picture of the behavior characteristics of the child at his best. This is not a simple task. Children are not, as a rule, accustomed to meeting strange people in strange rooms. They are not moved by any sense of social obligation to answer when someone questions them. They do not know how, when frightened or self-conscious, to "pull themselves together." The best and in many cases the only response is obtained by letting them proceed at their own rate. To hurry them is only to confuse them. Wait until they feel secure enough to want to explore the possibilities of the situation.

The Examination Room and Material. The testing room should be fairly small. A large room is frightening to the timid child and offers the hyperactive one too much scope for activity too far distant from the test material. The room should be well lighted, as dark rooms are depressing if not frightening. In addition to the psychologist's desk and chair, there should be a small, low table and two small chairs, one of which can be used by the psychologist. The floor should be so covered that it is possible to sit on it if necessary. One or two thin cushions are a help.

The test material needed for the application of the various scales suitable for young children that are described in this chapter should be kept in fairly large, but easily manipulated, covered boxes, only two or three of which are presented at a time. The material for each test

should be returned to its box before new material is taken out. This may sound meticulously neat and orderly, but it is a safeguard against various contingencies. A nervous child becomes overexcited very easily by a profusion of toys. The domineering child will do his best to make you take out everything in the room and pile it in the middle of the table or the floor, and he then becomes bored with the lot. At best, it distracts attention from the task at hand to have several new, half-explored, or inadequately exploited playthings lying about. Having one at a time focuses the attention and, moreover, whets the curiosity, and it often speeds up the execution of the test for the child to know that this "game" must be finished and the material put away before it is possible to see what is in the next box.

Presentation of Tests. The greatest tact must be exercised in adjusting the rate of presentation of tests to the child's readiness to accept them. Some children run through each test with enthusiasm and the problem is to keep them working at difficult tasks long enough to be sure that they have made their best effort. Others, especially children from poor homes or institutions, who have had very little experience with toys of any sort, show a desire to repeat the form boards or puzzles again and again or to play with the material in ways of their own devising. Some such children begin playing readily with the first material, but as one new thing after another is produced they become bewildered and insecure and withdraw into shy-eyed, passive resistance. Occasionally a child who is afraid but overanxious to please will seem to respond very well, putting prodigious effort into doing anything that is asked, and then will suddenly break under the strain and begin to sob hysterically. The only

general admonitions which can be given are to watch the child closely and not let him become strained or hurried. This does not mean to allow him to dawdle; but if his interest in some piece of material is still so keen that he does not respond to your invitation to inspect the next box, let him alone a while longer. You can suggest that probably he will be ready in a few minutes and shortly thereafter repeat the invitation to see what is in the next box. Little children cannot change too abruptly from one thing to another. It is only fair to give them a little warning, although three or four minutes are usually all that are needed. The entire testing period will be from 25 minutes with the very little children to approximately an hour with the 5-year-olds.

There is almost invariably a marked improvement in a child's responses if he is brought a second time. To let him play freely the first time and test him the next would be ideal, but unfortunately this is sometimes not practical. In cases of extreme social inhibition, however, it should be done. It is not only futile but unjust to estimate an intelligence score on the basis of a test situation into which the child has been able to put only a fraction of his best effort. A careful study of the effects of negativism has shown that the result is a consistent lowering of the intelligence quotient, in some cases by as much as 35 points.[1]

It is to be remembered, also, that the child's degree of sustained interest, his purposefulness or his spontaneous play, his speed of readjustment, his attitude toward change, his self-assertion, and his desire to control the

[1] Rust, Metta M., *The Effect of Resistance on Intelligence Test Scores of Young Children,* Child Development Monographs, No. 6, Teachers College, Columbia University, 1931.

situation himself are all points which must be noted; they are just as important as the actual test scores and must be considered in the final interpretation.

Objective Descriptions of Behavior. The psychological study of the child should include this objective description of his behavior in some detail, noting remarks or activity symptomatic of personality trends. It is impossible to give here an outline that will cover all the possibilities of significant individual behavior; moreover, these possibilities have been very well set forth by various authors. Rachel Stutsman for example, makes the following statement:

> The sum total of the child's reaction is significant. It is an entity. We have separated the mental-growth elements of this reaction as far as we can and have organized them into a scale. But it is not enough to get the mental test score when at the same time we might have a much more valuable measure of the entity, the responding child.[2]

She forthwith describes a classification of behavior traits, illustrated by examples to be used in comparing one child's behavior with that of others. Self-reliance, self-criticism, irritability toward failure, degree of praise needed for effective work, initiative and independence of action, self-consciousness, spontaneity and repression, imaginative tendencies, reaction type, speech development, and dependence on parents—these traits are all considered, and the child is rated on a 5-point scale for each type of behavior.

Similar but briefer scales are indicated on the face sheet of the most recent revision of the Stanford-Binet

[2] From Stutsman's *Mental Measurement of Pre-School Children*. Copyright 1931 by World Book Company, Yonkers, New York.

and on the Minnesota Preschool Scale. The Binet classifications are: willingness, self-confidence, social confidence, and attention. The Minnesota Scale classifications are: shyness, negativism, and distractibility. The California Preschool Mental Scale provides space on the test blank for a 7-point rating of 12 types of response not only to the test as a whole, but to the motor and verbal items of the test appraised independently. In addition to this scale, there is a check list of 38 headings, including emotional, mental, motor, and social-moral behavior, each covering from 105 to 228 separate items. So detailed a study of each child is obviously impossible in ordinary clinical practice, though necessary for thorough research.

Analysis and Interpretation of Results. The aspects of the testing program so far discussed may be described as (1) setting the stage for free and maximum response and (2) careful observation and recording of test achievement and significant behavior. The third phase of the study is seldom included, for some reason, in test manuals. This part is certainly of no less importance than the rest and certainly more difficult to master, because at this point the science becomes an art. Perhaps this is why most mental practitioners hesitate to commit themselves in writing on this subject. This third phase is the interpretation.

First there is the interpretation of the test results themselves. These must be analyzed. Did the child do poorly with tests requiring fine manipulation or motor dexterity, such as the bead stringing or form boards, and yet succeed with those involving the isolation of a common element, such as the concept *two* or the color *red?* Did he fail the tests of vocabulary and yet show himself capable of working out the system by which a set of cubes fit into

one another or a jigsaw puzzle makes a picture? Did he put this puzzle together by the shape of the pieces only and fail to recognize the fact that it makes a picture, or could he tell you about the picture later? Or, even better, did he find half of a boy's face on one piece and look for the other half? The quality of this latter performance would be much higher than the first, even though the time might be slower, and it is these qualitative aspects which must be taken into consideration in the final summing up of his ability. This is particularly true on any test item which is timed. It is worth remembering, too, that the child will seldom tell you he is looking for the other half of the boy's face. Your own observation of his actions and your insight into his mental process must help you to recognize this sort of purposeful activity.

The more recent mental scales, such as the Minnesota, facilitate this type of analysis by considering the motor and verbal tests separately in the scoring. The California Preschool Scale goes even further and offers as its distinctive feature the arrangement of test items into 10 separate classifications, such as "Manual Facility," "Form Discrimination," "Size and Number Discrimination." In summing up the child's abilities, one can then say with some substantiating evidence that his intelligence is primarily of the verbal, abstract type, with only fair motor co-ordination and practical judgment; or that his ability to generalize is limited but that he handles concrete problems with ingenuity and precision, and so on.

Preschool Prognosis. An instance of the need for this type of analysis occurs when a child is referred for an estimate of his probable success in the first grade. Often the actual test score is not very helpful. The performance must be analyzed to discover whether the child's vo-

cabulary and conversation indicate sufficient imaginative play and practice in expressing his ideas in social intercourse to constitute an adequate background for the experience of learning to read. If his vocabulary seems adequate, are his rote memory and his ability to perceive complicated configurations such as to enable him to recognize and remember words?

This brings us to the second type of analysis, that of his behavior exclusive of actual test achievement. For the particular problem of school readiness, one would need to decide from the objective record of his behavior whether his ease of adjustment to a strange situation, his ability to take suggestion and guidance from an adult, his attention span, his interest in doing things for himself, his reaction to failure—in brief, his social maturity —is sufficient to enable him to use his intellectual assets to the best advantage.

Many children with high Binet I.Q.'s fail to learn to read because of immature or faulty processes of perception. Many others fail to adjust to school routine because they lack experience in working out problems for themselves or in accepting a place as part of a co-operative group.

There are a number of excellent studies of what constitutes social maturity, some of which have been previously described. Other references are given at the end of this chapter.

Reliability of Test Performance. Another problem which enters into the interpretation is the reliability of the performance. One must be especially cautious in accepting as final and valid the test achievement of a very unresponsive child or a very hyperactive, excitable one. It is occasionally necessary to report that a child's test

performance was somewhat below average, but that he was so socially inhibited and fearful or so scatterbrained from anxiety that no accurate estimate can be made of his probable ability.

It is important to know the state of a child's health and the emotional tone of the period just preceding the examination. That a cold or an upset stomach or fatigue may seriously affect a test performance is obvious. It is equally true that a child who has been dragged to the clinic more or less by force by some social worker or determined parent, and is bristling with impotent resentment, is not likely to do himself justice; neither is a child who has just been separated from his parents and placed in a foster home, nor even one who has been kept waiting for a long time in a tall chair in an outer office.

Neurotic Symptoms in Small Children. The majority of preschool children are likely to be shy, but approximately 5 per cent already show actual neurotic symptoms. It requires a good deal of experience to be able to tell when the degree of shyness has become abnormal, and a diagnosis of chronic anxiety is to be made with caution. The child who sits in a huddled position, tense with fear, or who gingerly touches only those toys within reach, remaining speechless and solemn even when allowed to play freely for a considerable period, is justly open to suspicion. More difficult to interpret is the behavior of the child who does everything that is asked of him, but is too obedient, too anxious to do everything exactly right, who cannot admit failure, who is a perfectionist, a compulsion-neurotic in the making. One such child with a Binet I.Q. of 147 took 10 minutes to place the blocks in the Seguin Form Board because she felt obliged to place each one very accurately, take it out and

feel the edges of the block and the hole, replace it, pat it, and repeat the whole performance, asking anxiously, "Is that right? Does it go right there? Is this just the way you do it?" Still another type is the so-called hyperactive child, so insecure that he cannot relax, who keeps constantly moving, changing interests, demanding new stimuli, exploring, asking questions, in a constant effort to anticipate and ward off the unknown danger which threatens him. He is constantly braced to meet any emergency, like a scout in alien territory. He gives the general impression of possessing unusual mental alertness and physical energy, but tests prove that he is quite incapable of sustained concentration or independent play. Most children enjoy adult attention and usually do what they can to ensure its continuance, but this type of child suffers great anxiety and mental discomfort if the attention is withdrawn. An example is that of a little girl who was brought to the clinic from kindergarten. She kept up a constant stream of questions, such as, "Why did I come here? Do you like little girls? What are they doing at kindergarten? Are they having their tomato juice now? Will they let me in when I get back? You watch me do this, won't you? Does my father know where to find me? You won't go away where I can't talk to you, will you?"

Recapitulation of Examination Procedure. To recapitulate, in testing the young child you must: (1) set the stage for free and maximum response; (2) carefully observe and record actual test achievement and significant behavior; (3) analyze these records, first, for type of intelligence (predominantly abstract or concrete), special abilities or defects (auditory, visual, verbal, lack of muscular co-ordination, and so on), and second, for traits

of temperament and behavior or emotional tone which may have prevented these records from presenting a true picture of the child's potential ability and which, if relatively fixed, will promote or hinder the use of his intellectual assets to the best advantage.

It would seem almost too obvious to mention here, if it were not so important, the fact that no interpretation of a young child's behavior in a test situation is likely to be valid for reliable prediction of future development unless the psychologist has learned to interpret the behavior of the child in other situations and now and again refreshes his experience by careful observation in nursery schools, playgrounds, or home surroundings, even to the extent of using one of the behavior inventories previously mentioned.

Value of Preschool Tests. So much for the actual testing. The second phase of the problem is concerned with the practical appraisal of the preschool tests themselves and their present predictive value for future adjustment to school or less circumscribed situations.

First there is the "practice effect" of retests. It has been found that the reliability of test results is perceptibly and consistently improved by repetitions of the test situation, even though different tests are employed.[3] The situation as a whole has become more familiar, even though the separate elements, such as examiner and material, are changed. Before making diagnosis or recommendations, therefore, it is important to find out the results of previous tests and the circumstances under which they were given.

[3] Honzik, Marjorie P., *Factors Related to Changes in Mental Test Performance During the Preschool Period,* University of California Dissertation, February, 1936.

The results of recent studies seem to indicate that the correlation between early test results and those of the Stanford-Binet, given at school age, are disappointingly low. Within the age range from 6 months to 6 years, a child's I.Q. may vary from 3 to 29 points. There is, however, a distinct improvement with age. Correlations of tests given to 6-months-old infants with indices of later mental status range from .10 to .30.[4] One study goes so far as to state that "the child's score at 3 years can be better predicted by the education of his parents than by his own test score, obtained at any time during the first year." Tests given at 3 years or later (to children whose reactions to the test situation have become stabilized by previous experience) show correlations of .58 to .76 with tests given to them at school age.[5]

Anderson[6] in a recent article has given what seems to be the most adequate summarization of the present state of our knowledge regarding the use of test scales as predictive measures. He emphasizes (1) the unreliability of single tests given at an early age; (2) the need for uniform standardized procedures; (3) the possible influence of disturbing factors such as negativism in the examination of young children; (4) the unsatisfactory nature of age progression as a single criterion of validity of tests. His final conclusion reads as follows:

[4] Nelson, Virginia L., and Richards, T. W., "Studies in Mental Development, No. 1," *Journal of Genetic Psychology,* Vol. 52, 1938, pp. 303-325.

[5] Honzik, M. P., "The Constancy of Mental Test Performance During the Preschool Period," *Journal of Genetic Psychology,* Vol. 52, 1938, pp. 285-302.

[6] Anderson, John E., "The Limitations of Infant and Preschool Tests in the Measurement of Intelligence," *Journal of Psychology,* October, 1939.

Infant tests, as at present constituted, measure very little, if at all, the function which is called intelligence at later ages. Preschool intelligence tests, while they are instruments of some value and usefulness, measure only a portion of that function.

In consequence of these facts, Anderson evinces a wholesome distrust of conclusions regarding the nature of intelligence based on preschool measures and tests applied in infancy.

Mental Functions Examined. Much of the difficulty undoubtedly lies in the fact that the tests are measuring different functions or groups of functions at successive ages, instead of any consistent unit which constitutes "intelligence" at all ages.

The assumption underlying the construction of infant tests is that sensory-motor functions and simple adaptive behavior are *intellectual*. They are undoubtedly intellectual from the propaedeutic point of view, since they are the foundation for more slowly maturing behavior patterns, such as language or social response. But sensory-motor skills very quickly reach their physiological limit, and the range of ability is relatively narrow.

As a matter of fact, experiments with adults have proved that there is a very low correlation between the ability which is measured by standard intelligence tests and that measured by simple sensori-motor tests.

Adaptive behavior can scarcely be said to emerge before 6 months or 8 months, but once established it seems to form one of the most stable features of intelligence. Binet considered attention and adaptation as the two most important factors in general intelligence. Stern's often-quoted and commonly accepted definition is: "Gen-

eral intelligence is the ability of the organism to adjust itself adequately to new situations."

In various item-by-item correlations between early and later tests, there seems to be a general tendency for the sensori-motor tests to decrease in relative importance and for items based on a sense of spatial relationship and an awareness of and response to surroundings to increase in importance. It might be worth noting that neither one of these attributes is completely tied up with the use of language.[7]

When language does appear and verbal items can be introduced into the tests, psychologists seem prone to overlook the fact that while language is a specialized form of the adaptive behavior which preceded it, it is *only one of many forms.* Probably because verbal responses are so much easier to score and questions require so much less ingenuity and skilled observation on the part of the examiner, the verbal type of test has received a position of exaggerated importance. Tests in which verbal items predominate, therefore, are sampling an artificially restricted section of adaptive behavior, and correlations with the varied range of abilities found in preschool tests are lowered accordingly. It might be worth considering whether the assumptions underlying the tests for later ages are not at fault, rather than those for the preschool age. It might also be worth while evaluating the preschool tests on the basis of the proportion of test items not directly involving language.

A final causative factor in the lowered correlations between repeated intelligence tests and the crossing and recrossing of individual growth curves appears to be rather

[7] See Nelson, V. L., and Richards, T. W., *loc. cit.,* p. 323.

the actual change in the tempo of development than the inadequacy of the test. Data are being accumulated on this point, but definite conclusions are as yet unwarranted.

The general nature of intelligence is emphasized by Freeman:

> General intellectual ability is a reality and there are two or three plausible explanations of its organic basis. It is not to be identified with any one particular thought process, but includes a number of modes of thinking, with emphasis on the more abstract and complex ones. The group factors or primary abilities are probably not native abilities but habits of thought formed by experience and training.[8]

Comments on Commonly Used Test Schedules. The preschool scales which have been most widely used are the Gesell, the Kuhlmann revision of the Binet-Simon, the Merrill-Palmer, and, more recently, the Minnesota, the California, and the Terman-Merrill revision of the Binet. No one of the group can be selected as superior to the others for all purposes. Many of the test items in the early scales have been taken over bodily or readapted for use in later scales. The clinical psychologist would do well to familiarize himself with all the scales and to acquire facility in administering at least two or three of them, so that he will be able to discover for himself which one is best adapted to the needs of the type of child he is most often called upon to test. A study of the manual will give him the author's aims and the general plan of the scale. The following comments are made as a brief, practical guide to the most significant features of the various scales.

[8] Freeman, F. N., *Mental Tests,* revised edition, Houghton Mifflin Company, Boston, 1939.

The Gesell Scale. This test in its original form is not very satisfactory. Gesell felt that exact age placement of items was not justified, and he preferred to indicate the quality of performance at any age by letters, such as A, B, C. However, a great deal more experience with infants than the average psychologist secures is needed to judge the quality of performance. At best, the scale is more useful as a set of norms for general development than as a test of intelligence.

The Department of Child Hygiene of the School of Public Health of Harvard University has recently arranged the Gesell items in an age scale similar to that of the Stanford-Binet tests, avowedly as much of an intelligence test as possible. The scale runs from 3 months to 30 months, and it has been constructed so as to constitute an extension downward for Form L of the Stanford-Binet.

The directions for giving and scoring most of the items have been rewritten, and many of the procedures have been modified, in order to make either the administration or the scoring more uniform and objective. It promises to rank very well in general usability with other preschool tests. The scale has not been in use long enough to make more critical comment possible.

The Merrill-Palmer Scale. The most valuable aspects of the Merrill-Palmer Scale are, first, that the material is colorful, fairly familiar, and intrinsically interesting to practically all chidren; second, that it provides some method of scoring which deals with the problem of a child's refusal to attempt test items; and third, that 86 per cent of all its items can be given without the use of language or even of verbal instructions, if necessary. This makes it extremely valuable in dealing with the very shy

child, the negativistic child, the child with speech or hearing defects, or the child from a home where English is not spoken. It also wins a readier response than the other scales from the very dull and the very young child. The test results do not correlate so highly with tests of intelligence given during school years as do those of some of the other scales.[9] The primary abilities most effectively tested are visualization and capacity for rapid perception. Whether the test is as efficient a measure of "intelligence" we cannot say, but at least it is not so valuable in predicting success in an educational system that is largely built up around the use of language, memory, and verbal reasoning. Another disadvantage is that most of the items are timed and are therefore unfair to the child who is overcautious or very deliberate. It does not do justice to the child who is awkward with his hands but precocious in language development.

The Minnesota Scale. The best features of the Minnesota test are its exceedingly careful standardization, with accurate placing of test items; the fact that there are two forms of equal difficulty; the division into verbal and nonverbal sections, which can be scored either independently or combined; and the complete absence of timed test items.

The test material is simple and compactly arranged, but it is not so interesting to young children as the Merrill-Palmer. Its authors apparently recognize this defect by placing in their manual the suggestion that, in addition to the test material, "the examiner should have at hand a few simple and attractive toys to use as an aid in getting acquainted with the child." They also state

[9] See Kawin, Ethel, *Children of Preschool Age,* University of Chicago Press, 1934.

plainly that since all instructions are given verbally, the test is not suitable for children who understand no English or for deaf children. On the other hand, it gives a better measure than the Merrill-Palmer of the child who uses his hands poorly but has high intelligence of the verbal, abstract type.

It is an admirable scale to use with the older, more intelligent, preschool child of American parentage.

California Preschool Scale. The distinctive contribution of the California Preschool Scale is its arrangement of test items into 10 separate classifications, such as "Manual Facility," "Form Discrimination," and the like. Each of these classifications is represented by one or more items at each level of ability measured by the scale.

The test has not been completely standardized, and its chief function at present is to serve as an instrument of research on the development of intelligence. A great deal of apparatus is required; since this scale borrows most of its items from previous scales, however, a well-equipped clinic is likely to have most of this material. Still, it requires a great deal of shifting of attention from one kind of apparatus to another, and it is apt to be quite confusing to the child from a very poor background who is unaccustomed to toys or pictures or adult participation in his activities.

The scoring is complicated but highly analytical, so that a qualitative measure is recorded for the test response as well as for the passing credit, and it is possible to construct a profile of the child's highest point of success in each of the categories of tests. This possibility of analysis makes the California scale valuable as a check on the results of other tests, even if it does not seem desirable to give the scale in its entirety. For example, if

it seems evident from his performance on the Seguin Form Board that a child's discrimination of form is poor, it is possible to arrive at a far more satisfactory estimate of his ability by giving him the form discrimination sections of the California scale.

Terman-Merrill Tests at Preschool Level. The obvious advantage of the new Terman-Merrill revision of the Binet is the fact that it is part of the total scale which has become the standard measure for school children. The problems presented are of the same type, and in some cases (for example, bead stringing, rote memory) the same test performance may be scored at both the preschool and the grade level. It therefore provides an excellent instrument for prediction of success along the same lines as measured by the complete scale. There are no timed tests, and the provision of alternate forms is a definite advantage.

In spite of its authors' efforts to reduce the number of verbal tests, 76 per cent of the test items through 5 years require verbal instruction, and 48 per cent require actual verbal response from the children. Terman and Merrill attempted also to "make the scale more valid by the liberal use of diminutive objects." The hypothesis that children are more responsive to concrete objects than to verbal concepts or even pictures is sound, but the choice of diminutive objects was unfortunate. Very young children (possibly 3 years or under) are not so readily attracted by diminutive objects as by large ones. Their form discrimination is poor, their experience with actual objects of natural size is limited, and they do not generalize readily. The tiny kitten, which would entrance a child in the primary grades, is far more likely to be an unfamiliar and rather insignificant lump of matter to the

two-year-old. On the other hand, for the child in the later preschool years, these tiny toys often prove to be entirely too diverting. Only the very well adjusted or the too docile child can endure having these treasures exposed for a few minutes (and tied to a cardboard at that) and then spirited away without any opportunity for him to inspect them and try out their possibilities. Some children rebel outright; others attend half-heartedly to subsequent tests, but their mind is not on their work. On the whole, these little toys do not seem to be suitable test apparatus. Another serious defect is that while alternate tests are provided for each level, no other allowance is made for refusals, even at the earlier ages.

The Kuhlmann Tests. The two Kuhlmann revisions of the Binet were outmoded and discarded on the completion of a new scale by Kuhlmann in January, 1939. Practically none of the original tests was used, though Binet's basic principles are retained. For example, the scale still measures mental development in terms of the median abilities of children of different ages, and results can be expressed in terms of M.A. and I.Q., although a new measure, "The Per Cent of Average," has been added.

This scale has not been in general use long enough to receive competent criticism, and the following comments apply only to the sections at the preschool level. One of the improvements listed by the author is recognized as valid after a very few trials: the test is more objective, due to the elimination from the scale of all items in which any ambiguity or variation in the giving or the scoring could enter. The scoring is new and somewhat complicated. An unusual degree of precision is required; but if the directions are painstakingly followed, the results appear to be gratifyingly accurate. The scale has the ad-

vantage, also, of being a complete, internally consistent measure of mental ability from infancy to adulthood.

The equipment, taken over in large measure from other scales (notably the Gesell and Bühler scales), is simple and is readily accepted by the children.

Tests involving language begin at 1 year 4 months, and the latter part of the scale up to 6 years is too heavily weighted with language tests, 36 per cent of the items requiring verbal directions and the majority of these items requiring verbal responses. Moreover, the test directions state emphatically that verbal directions must be *read* with absolute accuracy. This in itself would limit the usefulness of the scale with children of non-English-speaking parents. On the other hand, 8 of the 59 items below 6 years entail response to spatial relationships, which is an adequate recognition of this type of abstract ability.

References for Chapter XV

Bayley, Nancy, "Mental Growth During the First Three Years," *Genetic Psychology Monographs,* Vol. 14, 1933 (See pp. 1-85.)

Bayley, Nancy, and Jones, Harold E., "Environmental Correlates of Mental and Motor Development: A Cumulative Study from Infancy to Six Years," *Child Development,* Vol. 8, 1937 (See pp. 329-341.)

Bühler, Charlotte, "The Social Behavior of Children," Chapter 9 of *A Handbook of Child Psychology* (edited by C. A. Murchison), Clark University Press, Worcester, Mass., 1933

Doll, Edgar A., "A Practical Method for the Measurement of Social Competence," *Eugenics Review,* October, 1937

Gesell, Arnold, *Infancy and Human Growth,* The Macmillan Company, New York, 1928

Gesell, Arnold, *The Mental Growth of the Pre-School Child,* The Macmillan Company, New York, 1925

Gesell, Arnold; Thompson, Helen; and Amatruda, C. S., *The Psychology of Early Growth,* The Macmillan Company, New York, 1938

Goddard, H. H., "The Form Board as a Measure of Intellectual Development in Children," *Training School Bulletin,* Vol. IX, 1912 (See pp. 47-52.)

Goodenough, F. L.; Foster, J. C.; and Van Wagener, M. J., *Minnesota Preschool Scale,* Test Bureau, Inc., Philadelphia, 1932

Herring, J. P., *Herring Revision of the Binet-Simon Tests: Examination Manual, Form A,* World Book Company, Yonkers, New York, 1922

Ide, G. C., "The Witmer Form Board and Cylinders as Tests for Children Two to Six Years of Age," *Psychological Clinic,* Vol. XII, 1918 (See pp. 65-88.)

Jaffa, Adele S., *The California Preschool Mental Scale,* Institute of Child Welfare, University of California, 1934

Jones, Mary Cover, "Emotional Development," Chapter 6 in *A Handbook of Child Psychology* (edited by C. A. Murchison), Clark University Press, Worcester, Mass., 1933

Kuhlmann, F., *A Handbook of Mental Tests,* Warwick & York, Inc., Baltimore, 1922

——, *Tests of Mental Development,* Educational Publishers, Inc., Minneapolis, 1939

Levy, D. M., and Tulchin, S. H., "The Resistance of Infants and Children During Mental Tests," *Journal of Experimental Psychology,* Vol. VI, 1923 (See pp. 304-322.)

Stutsman, Rachel, *Mental Measurement of Pre-School Children,* World Book Company, Yonkers, New York, 1931

Terman, L. M., and Merrill, M. A., *Measuring Intelligence,* Houghton Mifflin Company, Boston, 1937 (See pp. 69-71.)

Wallin, J. E. Wallace, "The Peg Form Boards," *Psychological Clinic,* Vol. XII, 1918 (See pp. 40-53.)

CHAPTER XVI

The Dull and Backward Child

Up to the present we have been largely concerned with the discussion of the socially maladjusted or unadjustable child, whether he be delinquent, psychopathic, or mentally defective. We cannot, however, afford to neglect consideration of the dull or mentally backward children, who outnumber all the rest of the problem children taken together. Estimates as to the frequency of mental dullness vary somewhat according to the country and the standard of investigation. Burt suggests that the upper borderline for the mentally backward should be an I.Q. or mental ratio of 85, and that all children testing below 70 should be considered mentally deficient. "Children with mental ratios below 70," he says, "must, of course, be classed as mentally defective." But this I.Q. definition of mental deficiency—if it is based on a Binet examination—results in a gross overestimation of the number of feeble-minded and is unlikely to be much longer accepted by clinical psychologists in this country. We may, however, use the I.Q. limits of from 70 to 85 for the purpose of discovering how many "dull" children, in the above sense, there are.

Incidence of Mental Dullness. When the Stanford revision of the Binet was first applied, Terman published the distribution of children by tested intelligence, using a group of 1000 cases. His table showed that 1 per cent of these children had I.Q.'s of 70 or below, while 10 per cent were 85 or below.

In 1916 Porteus carried out a similar investigation with the same tests, using an equal number of Australian school children as subjects. But while Terman drew his cases from schools in middle-class areas in California, about two thirds of Porteus's cases were attending schools in industrial suburbs of Melbourne and were, therefore, of somewhat lower social grade. In addition, they included a group of rural children whose Binet performance, especially in the lower ages, was inferior to that of the city children. The tests found 1.1 per cent below 70 I.Q. and 15.5 per cent 85 or below, making the percentage of dull 14.4.[1]

On the basis of his investigations in London, Burt estimated the number of dull children as being at least 10 per cent. A survey carried out by Burt and Lloyd in Birmingham yielded a similar result. Burt states, however, that "the percentage of backward children in rural areas must average at least 20 per cent." The figure midway between the rural and the urban estimate would be approximately that arrived at by Porteus. Burt also mentions a survey involving 100,000 Scottish children that resulted in a very similar conclusion:

> It appears that in Scotland, taking rural and urban areas together, about 15 or 16 per cent of the school population would be dull and backward in our sense.[2]

If, then, there is general agreement that about 15 per cent of school children are mentally so dull as to be be-

[1] Berry, R. J. A., and Porteus, S. D., *Intelligence and Social Valuation,* Research Publications, No. 20, Training School, Vineland, N. J., May, 1920.

[2] See Burt, Cyril, *The Subnormal Mind,* Oxford University Press, London, 1935, pp. 117 ff.

tween 70 and 85 I.Q., then the problem that they present is of considerable magnitude.

Burt's Study of the Subnormal. Except for the fact that Burt's book is an expansion of a series of lectures to medical men and that he feels it his duty now and then to capture the interest of the profession by referring to their particular attention problems which in this country would be considered outside the province of medicine, his discussion of the backward child is very illuminating. He points out, for instance, that mental backwardness is associated, like delinquency, with inferior social status, the incidence being 1 per cent in good neighborhoods as compared with 20 per cent in poor neighborhoods in London. In spite of these findings he is careful to state that poverty is not the direct cause of backwardness but may be one of its results. Many of the poor may be impoverished because they are mentally dull. He draws attention to the sad case of the family drudge forced to carry a heavy burden at home, or the boy who works long hours outside the home, with the result that such children are listless and fatigued, unable to call forth the physical energy that must accompany mental alertness.

Burt is inclined to absolve the teacher from responsibility in the problem, saying that backwardness could rarely be ascribed to school inefficiency. This is true of the mentally retarded, but unfortunately there are the educationally retarded whose backwardness in school is directly due to the fact that the teacher may know how to teach the average child but not the exceptional.

Extremely interesting, in view of the emphasis that was some years ago placed on diseased tonsils, adenoids, and other physical defects as prime factors in the retardation of intelligence, are Burt's findings in this direc-

tion: "The presence of physical defects acts as a primary cause of backwardness in a small proportion of the cases only." Nevertheless, the removal of physical handicaps by the treatment of malnutrition, chronic catarrh, adenoids, chorea, deafness, and impaired vision is most important in any sane educational policy. Speech defects are also of very great importance. The question of stammering and stuttering has already been discussed in Chapter XI.

Environment of the Backward Child. In dealing with the delinquent, the home conditions, and especially the relationship between parents and other members of the immediate family, are usually stressed as important. They may be almost equally important for the backward child. Various studies have shown a decided improvement in I.Q. level of children transferred to good foster homes. This is due not only to the fact that a more pleasant and comfortable home atmosphere is conducive to the emotional stability of the child, which, of course, helps the learning situation, but also to the contact with adults of superior intellectual grade. The consequent improvement of the child's vocabulary and range of common knowledge will be reflected in the results of mental examination. Conversely, living under extremely unfavorable social conditions—for example, residing in an institution with little or no opportunities for outside contacts —has been shown to have a depressing effect. Cases instanced by Beth Wellman [3] have demonstrated changes as marked as 40 points in I.Q. level in either an upward or a downward direction, due to favorable or repressive environmental conditions.

[3] Wellman, Beth L., "Our Changing Concept of Intelligence," *Journal of Consulting Psychology,* July-August, 1938.

Significance of Changes in Test Quotient Level. These results bring to the fore some very important questions, especially with regard to the innateness of intelligence and the possibilities of raising the feeble-minded to the level where they would be considered only dull and of raising the dull to the point where they would be classifiable as normal. The trend of the whole controversy with regard to the constancy of the I.Q. would probably be completely changed if one fact well known to all experienced clinical psychologists were similarly recognized by the investigators who have worked so strenuously and argued so lengthily on the matter. This fact is that a Stanford-Binet or a Merrill-Palmer I.Q. is not a sufficient measure of intelligence, and the younger the child, the less adequate the test. If we were to speak not of a Binet intelligence quotient but of a Binet test quotient, we would not be so much concerned with the question of its constancy. The matter of a change in status from dull to bright, or from feeble-minded to normal, would, on the other hand, be of tremendous significance.

Consideration of the analysis of the Stanford-Binet set forth in Chapter V shows that a change in test quotient level is not necessarily synonymous with a change in intelligence. There are in the scale no less than 22 tests of verbal abilities, including tests of vocabulary, verbal description and interpretation, definitions, and so on, and 26 tests of common knowledge, many of which involve verbal comprehension and expression. Hence it should be perfectly plain that when a young normal child is transferred from an unstimulating atmosphere to a home where he has constant contacts with adults who use flexible, cultured English and who expect him to communi-

cate with them on this level, his own facility in the use of language will decidedly improve, and with it his Binet score. What is there remarkable or unexpected in that? Surely there is no basic difference between that improvement and the change in Binet level of a foreign-born child who is given the opportunity to overcome his language handicap. The files of the clinic in Hawaii contain many such cases. If the child is exposed to particularly favorable conditions, the gap between the first and second quotients may be explained by saying that the first test was an inadequate index of intelligence and the second gave an exaggerated measure.

The improvement will be largely dependent on the child's possession of normal verbal learning capacity, but even the dull may acquire a surface polish. The author well remembers examining a Mongolian imbecile who, by reason of constant contact with and instruction by very intelligent adults, reached a Binet level of $8\frac{1}{2}$ years. Notwithstanding this fact, he was not a whit different in any practical sense from the rest of the Mongols; he was merely an excellently educated imbecile.

In short, change in test quotient level is not psychological news, but making a feeble-minded person into a normal one would certainly be a marvel worth recording. If the contributors to the recent yearbook in which the evidence for changes in test quotient level is so earnestly debated all understood that no experienced clinical psychologist makes a diagnosis of mental deficiency on a single Binet or Merrill-Palmer test, the controversy would descend to its proper level. Examiners well versed in clinical practice know very well that test quotients may change materially, but rather seldom do. Very wide differences in intellectual status merely indicate that the

first diagnosis was wrong. Any child who finally functions at a normal level proves thereby that he never was feeble-minded.

A rather safe conclusion that can be founded on Wellman's figures seems to be that existing tests of the intelligence of very young children are not very dependable as predictive measures. The standardization principle is that an average or median mental performance is determined and is used as the norm of development. But this does not mean that there are not wide differences in the tempo of individual development. Investigations of the increase in brain capacity undertaken by Berry and Porteus have shown that from birth to the first birthday the average brain weight increases from 370 to 885 grams, or almost 240 per cent, and that by the fourth birthday it has 80 per cent of its ultimate adult development.[4] If the rate of growth is so tremendous in these earliest years, we can expect all kinds of deviations as regards mental development—deviations, however, that fall within the normal range.

Predictive Value of Tests. So far we have no means of accurately weighting, according to their predictive value, the various tests that make up a scale, and it may well be that whole segments of intelligent behavior either go untested or are given an insufficient weight in the total score. Hence a child examined at a very early age and who subsequently shows marked changes in test quotient level may merely illustrate the inadequacy of the scale to reflect consistently at all points the child's rate of development in comparison with the average.

[4] Berry, R. J. A., and Porteus, S. D., *Intelligence and Social Valuation*, p. 31.

As regards the adequacy of the preschool scales, they have been in use too short a time to show definitely where they need correction by the use of tests of a supplementary nature. Since experience has proved the necessity of correcting Binet verdicts at later chronological levels, it would be too much to expect complete dependability of the newer tests at the younger ages. Then, too, there is the matter of the child's emotional condition and mental set at the time of examination—a much more important variable with younger than with older children. Yet even when these factors are taken care of, there is still the matter of fluctuations in the tempo of development. The changes in test quotient level have been investigated mainly in relation to changes in environment, but there are many cases of atypical development not apparently directly dependent on nurture but ascribable to shifts of the child's interests and necessities. Factors affecting the child's general emotional set at the time of examination have been more fully discussed in the previous chapter.

This discussion does not mean, of course, that the clinical psychologist denies the effect of a depressing environment. Far from it. It would be as futile to make this denial as to say that coaching in the tests will not raise the I.Q. But for the peace of mind of the mental tester, we might point out that children do not normally live in institutions and rarely experience any violent changes from a repressive to a more favorable environment. Also, we are well aware of the fact that some children are so plastic in intelligence that they benefit by improved circumstances; others, on the contrary, continue to develop in spite of unfavorable influences—a condition recognized by Wellman when she speaks of children "psychologically different in receptivity." It is unfortu-

nately true that the tests commonly used do not always measure potentialities for development. Nothing that has been advanced so far gives encouragement to the hope that the really dull may become bright or the feeble-minded become normal.

Social Effects of School Retardation. Among the problems commonly met with in school and in clinical practice is that of the child who, though shown by tests to be up to the average in intelligence, lags seriously behind in his classroom progress. Chapter XII has already briefly discussed the relation of delinquency and school retardation. As supplementary to that discussion, the following points seem most worth emphasizing:

1. The school provides a continuously competitive situation in which the educationally retarded but otherwise normal child resents being outstripped by others who, in other forms of competition, are inferior to him.

2. School progress brings threefold approval—from teachers, from parents, and from classmates. The school laggard naturally seeks compensatory satisfactions. The boy may become overactive in sport, and the girl, denied this opportunity, may make special bids for attention from the opposite sex. Truancy and sex delinquency are frequently outlets for those to whom these substitute satisfactions are impossible.

3. At home the protest of the child against being forced into unfavorable competition with other children at school may take the form of a rebellious, sullen, or overassertive attitude, which may lead to the first serious rift between him and his parents.

4. Ineffective daydreaming is another form of escape. This is harmful only when it is a compensatory mechanism. Art and its appreciation represent in many in-

stances a retreat from reality, the effects of which may be most beneficial. Fantasies which have no issue in accomplishment are usually harmful.

5. Some children accept the verdict of mental dullness and in consequence exhibit social misgivings, submissiveness in personal relationships, avoidance of competitive effort, and a rather general distrust of their own capabilities in various directions.

6. Some school systems adopt a policy of tempering the wind to the educationally shorn by making their promotion plan extremely flexible and advancing pupils by age rather than by attainments. This merely delays the child's realization of his mental inferiority. This may or may not be worth while. Our sins may not always find us out, but our stupidities invariably do.

7. When the child is suffering from some remediable retardation in arithmetic, reading, or spelling—a retardation mainly attributable to the fact that methods of instruction suited to the average child are not suitable for him—the stigma of mental dullness is most unjustly applied. Educators, in recognition of this fact, are now paying particular attention to remedial work in the ordinary school subjects.

Tool Subjects in the Progressive School. That these remedial subjects are often called "tool subjects" should not diminish their importance in our view. It is probably true, as is said by progressive educators, that the attainment of these kinds of skills need not be brought about by the frontal attack of direct formalized instruction. It is claimed that if a child has a project that is sufficiently interesting to him, he will learn the use of the tools that are essential to the successful working out of that project, much as a man who wishes to dig an irrigation ditch

needs little practice in swinging a shovel but will acquire skill in actually digging.

There is a great deal of justification for this point of view, as far as it applies to children of ordinary capabilities and development. The intelligent, interested child will learn what he requires to know with very little direct instruction and with a loosely organized curriculum. But in the case of the exceptional child, the tool-using analogy does not hold. A simple tool, such as a shovel, requires little fore-exercise in its use; but a steam shovel or a locomotive is a far more complicated tool, and a man will require carefully graduated instruction in its operation. Yet complicated as they appear, these machines are very simple in comparison with the tools of reading, spelling, and numbers. It is doubtful whether there is any machine in the world whose handling requires such a long apprenticeship as the tool of reading. As to mathematics, there seems to be no end to its complexity.

From this viewpoint, the teaching of the so-called tool subjects is extremely important and, in the case of the child without natural aptitude for their handling, a very painful matter to both teacher and pupil. Teaching the child of average ability may appear easy, but that is only because so many people have been engaged in it for so long that there is a great accumulation of experience and numerous well-tried methods and teaching aids. Character building, enlargement of the personality, development of initiative and independence of thought and planning belong rightly among the objectives of progressive education. In the present experimental period and until the system is tested by results, we can only hope that these aims are being attained. But along with these goals there

is also that of proficiency in the tool subjects upon which all further education depends. Unfortunately, there are some children in every progressive school who do not progress. For these the usual methods of instruction are not suitable.

Specific Disabilities. Memory Defects. What, then, are these specific handicaps and how is it possible for them to exist along with average or better-than-average general intelligence? As a matter of fact, there are very many special disabilities, but some of them are of little importance. Certain people, for example, are color-blind and cannot distinguish red from green. Except for driving against traffic lights and in a few special situations, this disability will not be a serious handicap. Others among us lack specific memory for a sequence of musical tones. We have not, as people say, an ear for music.

Unfortunate or inconvenient though these disabilities may be, each is rather a deprivation than a handicap. But how serious would a tone memory defect be if language had been based on singing instead of speaking! This could easily have been the case if human ingenuity had taken another turn. Some languages did proceed some way on these lines of development. In the Chinese and Bushman tongues, for instance, the pitch of the voice may change entirely the meaning of the sound. If all language had been based on this principle, how difficult it would have been for people with this specific memory defect to have learned to communicate orally. It is, of course, a brain and not an ear defect. These people really have no brain for music, yet may not be in any other way mentally inferior.

Disabilities that do actually affect learning are, of course, very serious. In clinical practice the defect which

is found most frequently in association with difficulties in learning to read, spell, or do arithmetic is an auditory rote memory deficiency. The accompanying chart shows, in simplified form, the relationship of the different kinds of memory and the subjects they most affect.

MEMORY

IMMEDIATE (ROTE)		MEDIATE (DEFERRED RECALL)	
FOR RELATED MATERIAL	FOR UNRELATED MATERIAL	FOR UNRELATED MATERIAL	FOR RELATED MATERIAL
Sentences Designs, etc.	Digits Letters	Telephone numbers Car numbers Tables in:— Multiplication Addition Subtraction Division Spelling } Unphonetic Reading }	History Geography Civics, etc. Reading } Phonetic Spelling }

Relation to School Progress. Reference to the chart above shows that memory ability tends to differ with regard to the type of material dealt with, whether related or unrelated. For example, a person may remember well the facts contained in a new paragraph and do very poorly in remembering a list of digits. As previously mentioned, the individual with a poor range of auditory rote memory almost invariably has difficulty in recollecting the unrelated facts of multiplication, addition, and so on. There is no way of telling that seven eights are fifty-six or that l-i-t-t-l-e spells *little* other than as an exercise in rote memory. Similarly, the ability to learn and retain facts of history, science, and the like is weak when memory for related material is correspondingly poor.

Probably the close relation between auditory memory and school success, especially in the lower or primary

grades, is due to the fact that so much of the instruction is orally given. How important the auditory channel is may be appreciated from the lack of progress shown by the partially deaf child unless special steps are taken to see that the disadvantage is compensated for.

As a matter of fact, there is good reason for making instruction oral. We are dependent on spoken language for ideas long before we are able to gather knowledge through reading. Almost all the child knows between the first and ninth years of his life he has been told. Even in the university the usual means of instruction is *viva voce,* by lectures and discussions.

But phylogenetically, or racially speaking, the auditory channel of learning is the most recently added. Our infra-human progenitors did not use speech, and some authorities believe that gestures, a visual method of communication, preceded organized speech.

Visual Memory Among Primitives. It is not strange, therefore, that the brains or mental habits of some individuals are so developed that they are dependent more upon the older channel of learning. The education of primitive man is in large respect visual. The Australian aboriginal, for example, devotes a great deal of time and attention to the study and reading of tracks made by birds and animals or by other human beings, his feats in this direction being almost incredible. It has been noticed also that the same visual training forms the chief education of the Bushmen of Africa. The development of the necessary skill is to some degree dependent upon visual memory, so that this capacity has definite survival value. Other native peoples, in their efforts to win subsistence, likewise rely very much on their memory for visually observed situations and conditions.

An interesting instance of this is described by Sir Francis Galton, who in his youth, and before he became famous as a scientist, undertook a long journey into Southwest Africa. After pointing out that the Damara natives do not use any numerals above 3 and how puzzled they are in working out the price of 2 sheep at 2 sticks of tobacco a sheep, he states that they seldom lose oxen: "The way in which they discover the loss of one is not by the number of the herd being diminished but by the absence of a face they know."

Similarly, in northwest Australia a native stockman or cowboy left in charge of a herd of cattle knows at once when one is missing, although he cannot count beyond 4. Damaras, as a pastoral people, are with cattle all their lives, but this is not the case with Australians. Evidently the ability is connected with their visual memory. Tests administered to these natives also indicated that their auditory memory is much inferior, relatively speaking, to their visual.[5]

Preferred Pathways in Learning. A still older phylogenetic channel of learning is the muscular-tactile, or kinesthetic, sense. This is our first means of receiving stimuli from the outside world, but as we grow older the emphasis changes. For a long period in evolutionary development, smell threatened to become of paramount importance, but vision proved to be a more satisfactory distant receptor. In many wild animals, and in the domesticated dog, the olfactory sense is the principal informant. Because of the development of speech, the auditory sense channel has in humans become the most used pathway of learning, at least until the elementary stages of instruc-

[5] Porteus, S. D., *The Psychology of a Primitive People,* Longmans, Green & Company, New York, 1931.

tion are passed. Finally, however, through the acquisition of skill in reading, vision is reinstated as the chief means of education.

Considering, therefore, that reading is a visual operation to such a large degree and that vision constitutes the older highway of learning, it is not strange that some individuals do not progress when any form of phonics is used as the basis of learning to read. These cases are predominantly "visiles." Others again are of the motor type and learn best when the muscular-tactile sense plays an important part in the educative process. Normally we use the three senses of hearing, vision, and touch in conjunction as avenues of learning, so that while some may be predominantly visiles, audiles, or motiles, most of us are visuo-motor-auditory in our learning habits. But undoubtedly there are some children for whom the visual is the preferred path, especially those with inferior auditory memories. In such cases the visual neural mechanism often shows compensatory development. The mental alertness of the deaf, for example, is sometimes quite marked on the visual side, just as the tactual and kinesthetic senses are remarkably developed in the blind. For children with defective auditory memories teaching methods based on visual presentation are essential.

Burt in his book on the subnormal child instances one boy with poor auditory discrimination and weak auditory memory who had been taught reading and spelling by means of the phonic method with conspicuous unsuccess. Changing the method of instruction to a visual presentation enabled the teacher in eighteen months to bring him up to a nearly normal level. This experience could be duplicated many times in years of clinical practice. Burt's statement reads as follows:

In general, however, with those who are dull as well as backward, some form of the word-whole method proves more successful than a purely phonic procedure.[6]

Burt comments also on the school laggard's disability with regard to long-range mechanical or rote memory, but points out that there is a relationship between short-distance memory and this defect.

On the other hand, some children with good immediate memories are weak in retention, though on the whole this is an unusual condition. One feeble-minded youth the author knew had a most remarkable memory for dates and similar material. After reading over a railway timetable a couple of times, he could recite a whole page without mistake, giving the starting times of all trains and the time of their arrival at all intermediate stations.

In the application of a Binet test the psychologist will always carefully note any memory test results that are markedly out of keeping with the general mental level of the child, particularly if teachers report that the individual has difficulty in his elementary school subjects. Methods of testing reading disabilities and of giving lesson demonstrations are presented in Chapter XVII.

References for Chapter XVI

Berry, Charles S., *How the Teacher May Help the Exceptional Child,* Bureau of Special Education, Ohio State University, Columbus, 1933

Burt, Cyril, *Mental and Scholastic Tests,* London County Council, 1921

——, *The Subnormal Mind,* Oxford University Press, London, 1935 (See Chapter III, pp. 113-153.)

[6] Burt, Cyril, *The Subnormal Mind,* Oxford University Press, London, 1935, p. 141.

Furfey, P. H., and Muehlenbein, J., "The Validity of Infant Intelligence Tests," *Journal of Genetic Psychology,* Vol. 40, 1932 (See pp. 219-223.)

Hollingworth, Leta A., *The Psychology of Subnormal Children,* The Macmillan Company, New York, 1920

Ingram, Christine P., *Education of the Slow-Learning Child,* World Book Company, Yonkers, New York, 1935.

Inskeep, Annie D., *Teaching Dull and Retarded Children,* The Macmillan Company, New York, 1926

Maxfield, Francis N., "Objectives for the Special Class in the Public Schools," *Mental Hygiene,* September, 1924

McNemarr, Quinn, "A Critical Examination of the University of Iowa Studies of Environmental Influences upon the I.Q.," *Psychological Bulletin,* February, 1940

National Society for the Study of Education, *Thirty-ninth Yearbook: Intelligence, Its Nature and Nurture* (edited by Guy M. Whipple), Public School Publishing Company, Bloomington, Ill., 1940

Pressey, S. L., *Psychology and the New Education,* Harper & Brothers, New York, 1933

Thorndike, Robert C., "Constancy of the I.Q.," *Psychological Bulletin,* March, 1940

Wallin, J. E. Wallace, *The Education of Handicapped Children,* Houghton Mifflin Company, Boston, 1924

CHAPTER XVII

Diagnosis of Reading Disabilities *

Wisely or not, most children in our society are expected to attend school for ten or twelve years; and many people consider that the child's most important job during those years is to get book learning. The popular ideal, as reflected in the compulsory education laws, in officially adopted curricula, and in the generous public support given to schools, is an adult population which shall be literate at a fairly high intellectual level. Whether the ideal will ever be reached is still an open question; the schools are trying hard. With some children they have failed, and these children are being brought in increasing numbers to the clinical psychologist for examination and remedial suggestions.

Basis of Reading Difficulties. These children vary not only in the degree of reading retardation shown but also in the reasons for their failure. We are concerned here only with a relatively small group whose disabilities are fairly specific to reading, although spelling and writing are naturally involved as well. The primary difficulty may be a visual one, but if so, it is not one which interferes seriously with the child's ability to enjoy the movies or to play tennis. Perhaps there is a partial deafness, serious enough to prevent effective learning by the methods which have been used with him, but unnoticed because at some frequencies he has normal auditory acuity and is able to hold up his end in conversation. The basic cause may be some intellectual deficiency of a sort which

* This chapter was contributed by Dr. Colin J. Herrick.

has not seriously affected the child's performance except in the field of written language. In some cases the disability may spring from some cause which even prolonged study will not identify with any certainty.

Let us see what the clinical psychologist can do for the child of average or better-than-average general ability, whose total behavior output is "normal" or satisfactory, except as it relates to reading and to the disorders of motivation which sometimes follow persistent failure.

The first important service which the psychologist can render the child with a specific deficiency in reading is to identify him as such. Some children whose real difficulty is of this nature are considered by parents and teachers to be stupid, lazy, willful, or lacking in application.

Differential Diagnosis. In actual practice, a history of such judgments of nonreading children is being encountered less and less frequently. A commoner problem for the psychologist attempting differential diagnosis of reading deficiency is that of ruling out the children who come to him already diagnosed by teachers and parents, but diagnosed wrong. In these cases, of course, after determining that the problem is not specific to reading, he must still give what advice he can in dealing with the child. But the cases in which poor reading is merely a presenting symptom do not lie within the scope of this treatment.

Wrong diagnoses by parents are often a matter of wishful thinking. Some parents can accept with less emotional disturbance the fact that their child is a cripple or a thief than the opinion that he is stupid. So, having learned something about specific reading deficiency, either by word of mouth or through reading a popular article, they are ready to convince themselves—even about a very stu-

pid child, and even more readily about a child who can read mechanically material which he cannot understand —that the problem is one of a selective disability in a child who is in most ways brighter than average.

Since the individual judgments which teachers make about children are less charged with emotion, they are commonly more critical. Nevertheless, many teachers are prone to jump too quickly at the concept of specific reading deficiency. Over a period of a few weeks recently the author had referred to him for examination six children from the same "remedial reading" class of a junior high school. The six were all past 14 years of age; one of them was intellectually very dull, and the other five were definitely feeble-minded. Now there is nothing out of the way in the fact that the principal of a good school asks for outside opinion on the feeble-minded children of 14 and older. The striking thing is the implication, found not only in the penciled notes taken over the telephone and written in the appointment book by the clinic secretary, but also in the covering letter from the school, that these children represented cases of specific reading deficiency— that they could appropriately be included in a remedial reading program. None of them was ever likely to have any use for reading, and each of them was able to read, intelligibly to the listener, words whose meanings he did not know. Thanks to many articles in the popular and professional magazines, specific reading deficiency has become an unduly fashionable complaint and the remedial reading program too trusted a corrective.

The clinical psychologist who can be properly skeptical of the diagnosis in all cases which come to him already diagnosed as suffering from a specific reading deficiency is performing several services. In the first place,

a remedial program based on a mistaken diagnosis of this sort will fail, somewhat in proportion to the amount of error in the diagnosis, with the following unfortunate results: (1) unnecessary discouragement of the child; (2) unnecessary discouragement—and perhaps expense—for the parents; (3) unwarranted doubt on the part of the teacher of the effectiveness of remedial methods which may in fact be excellent when applied to appropriate cases. Secondly, in some cases a redefinition of the problem will lead to a program for the child which will be positively helpful, instead of useless or perhaps harmful either to him or society. Thirdly, if a school system has teachers devoting part or full time to remedial work with children having specific deficiencies in reading, the elimination of these wrongly diagnosed cases permits them to put more of their time and energy on the type of case which they are presumably best qualified to help, or which the administration thinks is most deserving of special help.

Preliminary Investigation. The important thing at this point is to suggest merely a pre-examination attitude which seems calculated to help the examiner to arrive at the truth. If instead of labeling the attitude as one of skepticism we try to see how it affects the examiner's procedure, we can come out with the following brief rule of action for the first part of the examination: Take a full history, but don't believe it without proof. Anything which teacher or parent reports about the child's reading errors, his knowledge or ignorance of the alphabet, and his abilities in such significant nonreading activities as telling time or making change or doing arithmetic is worth listening to and recording. Comments about the child's vision, health, handedness, habits of attention, and

motivation should be listened to with care and followed up by further questioning, if anything significant comes out. But in most cases this type of information should not be accepted at face value. Judgments on these and similar items represent the core of the analytic examination, and whether or not the psychologist is able to observe and appraise them better than the teacher or the parents, he should try. If he does not succeed, there will be little excuse for his having undertaken the examination.

Having stressed the importance of an open-minded but skeptical pre-examination attitude, it will be well next to consider one principle of good examining procedure which should apply under all conditions.

The Child's Attitude. Whatever the assumed normal may be, the differential diagnosis will have to be based on observed deviations from an assumed normal. The repeated failure, which any child being examined for specific reading deficiency will have met, causes in many cases serious emotional difficulties. The psychologist should first try to insure that the observed deviations shall not be due to any secondary or derived disorder of motivation. A simple and usually successful way of doing this is to put the first three sentences of this paragraph into the child's language, somewhat as follows: "You're here because you have trouble with reading, and I'm here to help. If I can find out *why* you don't read well, I can tell the teacher what to do to have you read better. No one can tell for sure how high you can jump until he knows how high you can't jump, so in a track meet people keep putting the bar higher until every jumper knocks it off. It's the same way here; I can tell more from what kind of mistakes you make than I can from anything

else. I've seen worse readers than you, and know that when somebody has been having trouble with reading the mistakes bother him, and sometimes he's so afraid of saying the wrong thing that he won't say anything at all. That's not helping me a bit; I have to tell by the mistakes you make. Do the best you can, but don't be afraid of making mistakes."

Such a harangue might logically precede the examination, but it is often more effective to postpone it until there have been two or three apparent instances of emotional blockage, and then to interrupt the examination and make fairly sure of rapport before continuing.

Methods of Examination. Unfortunately, once we get beyond the matter of the child's attitude toward the examination, we run at once into the possibility of disagreement about methods and interpretations. What performances are significant? Should two performances—call them A and B—be thought of as independent of each other, or related? If the latter, is A the cause of B, or is B the cause of A? Or are both A and B the cognate effects of some other factor, X? This is not the place to undertake a comprehensive critique of current theories about reading deficiency, nor is it the place to suggest a new one. References are given at the end of the chapter to the extensive and sometimes controversial literature in the field. The practicing psychologist will do well to familiarize himself with the facts, to know the important theories used in interpreting those facts, and to discriminate nicely between theory and fact. With this academic background, plus some experience in teaching reading, he can then select intelligently the particular diagnostic tests which fit best into such working hypotheses as he finds useful.

There is no lack of reading tests available for use by the clinical psychologist; on the contrary, so many tests have been published—excellent tests for this or that specific purpose—that it is a matter of some difficulty to choose among them.

They may be classified broadly as falling into three groups: reading achievement tests intended for large-scale use in the schools; tests of specialized mental functions thought to be important in reading, some of which may be given as group tests and some only as individual tests; and analytic tests of reading which must be given individually, and which may or may not be scored as part of a scale and recorded on a profile. The first group is a familiar one to every teacher or school administrator at all concerned with reading. Many of the individual tests in the Stanford-Binet are of the second type, as the memory span and rhyming tests in both the 1916 and the 1937 revision. Good examples of the third type are the Gray Oral Reading Check Test and the Iota Word Test, which are mentioned later.

Standardized Group Tests of Reading. The standardized group tests contribute very little to a clinical examination, and except in very special circumstances, it will be wise to avoid their use. Several somewhat related reasons can be offered for this suggestion. One of them suggested itself to the author very strongly before he was interested in clinical psychology as such but was very much interested, as an elementary school teacher, in what two near-by psychological clinics could report about the boys who were "problems" in school subjects. We did not, in such cases, ask for outside help until we had exhausted our own resources, which included the standardized group tests. Therefore, when it became apparent that

one of the clinics in question was doing little except administer the same tests we had used, or similar ones, there was a natural tendency to limit referrals there. A referring school has the right to request a more detailed study of the individual than these tests can give. A second objection to their use by the psychologist springs from a fact which justifies their use in group comparisons at school: other things being equal, the reliability of this kind of test increases with the length, at least to a point at which the time consumed in getting a measure reliable enough for individual diagnosis is more than can be spared from the rest of the clinical examination. In order to be able to control motivation, and in order to be able to spend his own and the child's time only in getting data relevant to the problem, the examiner will do well not to use tests calling for fixed time limits of 10 minutes or more. And finally, even if results are available from a test of this type which is long enough to have satisfactory reliability and validity for most purposes, it would be unwise for the psychologist to base diagnoses on them. The more serious a case of specific reading deficiency may be, the more likely it is to represent one of the small number of individuals to whom the group tests do not apply.

The Search for Causative Factors. Turning to the other two approaches open to the psychologist—the analysis of mental or environmental factors related to reading and the direct analysis of reading errors—the attempt to organize them for purposes of coherent presentation makes one wish for the moment that clinical psychology had more science, if not less art. If the clinical approach to reading disability were a scientific one, it would involve, first, a determination of the essential nature of

reading disability, and second, a listing of the possible primary or contributing causes. With this *a priori* background, the examiner would proceed down his list from the more frequent to the less frequent causative factors, applying appropriate measures of each, until he had the particular factors operative in the case at hand. He should then be able to suggest proper remedial measures and to predict how much improvement could be expected from their application. In a limited way this procedure is already available to the psychologist. It is possible for him either to rule out or to include in his "equation" such factors as visual and auditory defects, foreign language background, and many others. It may not always be easy to do so; a good audiometer is an expensive piece of equipment, and few of the people doing eye examinations seem to be concerned with the special problems of reading disability.[1]

But even though many of the apparently important factors are in some way measured, we are not much closer to a *scientific* basis than we were thirty years ago. To the extent that we can assign a zero value to any given factor, there is progress; the assignment of values other than zero remains extraordinarily difficult, in spite of much of the important recent research. Repeatedly in practice we find that a degree of some deficiency, for example, high-frequency deafness, or of lack of facility in spoken language, which seems in certain cases to account for the retardation in reading, can be found in other children whose reading is entirely satisfactory.

A somewhat related fact is that repeatedly it proves easier to teach a nonreader to read than to say with any

[1] There are exceptions, which it is to be hoped will become more numerous in time.

confidence what may have been the causes of his retardation. Since the primary aim of the practicing psychologist is to help the individual child by whatever means possible, and since he has only a derived interest in adding to human knowledge, we get here some insight into why the clinical psychologists as such have contributed relatively little to our systematized knowledge about reading deficiency.

In the present status of our knowledge, this orientation seems a thoroughly proper one. For the present, the psychologist can make his best prediction about the possible success of remedial methods A, B, or C by observing the effectiveness of those methods when he attempts to apply them in teaching the child. The analytic reading tests are much more effective in telling what to teach or in indicating how the child ought to be taught. The analytic tests of functions presumably related to reading, if taken at face value, can be used in pointing out remedial methods; but the less directly a test is a test of reading, the more difficult does it become to apply its findings in making a diagnosis of reading deficiency. Finally, it should be noted that the more extreme the reading deficiency is, the less chance there is that the reading tests will apply. In the most extreme cases, the examiner is limited either to the tests of discrimination, range of attention, or the like, which call for no reading, or to basing his diagnosis on the progress made by the child during short teaching periods in which various methods are tried.

Representative Reading Tests. With these considerations in mind, let us consider some representative sets of tests used in the diagnosis of specific reading deficiency. There are several such batteries or scales, each of which includes some reading tests and some tests of

functions more or less closely connected with reading or with learning to read.

The Monroe Tests. The Monroe tests,[2] published by Stoelting, are described at some length in two publications by their author. As explained in the manual, they are designed as part of an examination which should be divided into two sittings, the first to be given to the Stanford-Binet, and the second to educational tests and to the analytic reading tests. Since two of the educational tests suggested, the Haggerty Sigma 1 Reading Test and the Stanford Achievement Arithmetic Computation Test, need from 32 to 52 minutes to administer, without allowing for time taken to give the instructions, the estimated time requirement—45 to 75 minutes for these and the analytic tests—is rather too low. The analytic tests themselves are conveniently arranged for use.

There are at least four desirable features of this series of tests. First, the educational profile permits a graphic comparison of reading achievement as measured by various tests, with chronological and mental ages and with achievement in spelling and arithmetic. Second, the classification of errors into 11 types is carefully done; the profile of errors, derived from this classification, is helpful in planning remedial work. Third, such a profile is useful also in executing a remedial program: if a child makes any appreciable improvement, profiles of this sort before and after teaching will make the progress immediately apparent to him. Finally, the scale is flexible: any

[2] See Monroe, Marion, "Method for Diagnosis and Treatment of Reading Disability," *Genetic Psychology Monographs,* Vol. 4, pp. 333-456, 1928; and Monroe, Marion, *Children Who Cannot Read.* See also Miss Monroe's *Diagnostic Reading Examination, for Diagnosis of Special Difficulty in Reading.*

of the individual tests may be omitted at the examiner's discretion without affecting the validity of the judgments made from performances on the others.

Probably the chief defects of the scale as a whole are those of balance and range. Six of the 12 tests, the *bdpqun, mirror reading, mirror writing,* and *number reversal* tests—the one for recognition of orientation and those for hand and eye preference—seem based on too heavy a dependence on strephosymbolia as a cause of reading disability. This objection is not serious, however, and some or all of these tests may be omitted at will. The Iota Word Test and the word-discrimination test give ample opportunity for reversal errors to appear and to be noted, if there is any strong tendency for them to occur. The omission from the record blank of any space for recording such items as school, medical, and family history, notes on visual or auditory defects, auditory memory span, and the like is not an indication that Miss Monroe considers these things unimportant. But it does mean that the examiner who relies too much on these tests in differential diagnosis runs the risk of overlooking important factors.

The Durrell Tests. A more recent set of tests, somewhat more elaborate than Monroe's, is that provided by Durrell.[3] The materials are conveniently arranged, and they are either of more intrinsic interest to the child than Monroe's or else the test procedure does not make the child so conscious of failure, for it is easier to get good rapport and effort with these tests.

The bulk of the tests consists of four equivalent sets of reading paragraphs of increasing difficulty and 178 iso-

[3] "Durrell Analysis of Reading Difficulty," *Standard Tests,* published by the World Book Company, Yonkers, New York.

lated words, divided into seven lists, ranging in difficulty from such words as *to, in,* and *tree* in the first list up to *standardize, circumstances,* and *thorough* in the last.

Separate measures are taken of rate, errors, and recall in oral reading and of rate and recall in silent reading. The recall from oral reading is checked once by having the child answer questions and once by having him reproduce the passage read. The two methods for testing recall from silent reading are oral and written reproduction of the passages.

Two measures are obtained also from the word lists: (1) the score when the words are presented on short exposure in a simple tachistoscope, and (2) the score when the child has as much time as needed to study the word. Only those words failed on flash presentation need be presented again for analysis. These two tests are especially valuable. The children commonly like them, and even the very retarded readers, who do poorly by comparison with other children, seem to do better than they expect. Also, analysis of the performance gives fairly definite leads to the examiner in suggesting remedial work; and, finally, the child can be shown at once what type of practice he needs and made to believe that there is hope for progress. This is true even of children with quite different patterns of response. To one type, for example, the examiner can say: "You do very well with these when you have lots of time; all you need is practice on words like this, and you'll be fixed up." To another type of child, who does no better with unlimited time than on flash presentation, one says: "Any words that you know, you know very well; that's fine, because now all we have to do is teach you how to go after these new words."

Other features of the Durrell tests are the inventory of letter names and sounds and the space given for analysis of spelling and handwriting. Space is provided throughout the test folder for recording responses, analyzing errors, and checking certain qualitative observations on the performance. The first three pages are given to a graph for recording scores on these and other tests, a summary of the analytic findings, the recording of school, medical, and social history, and an outline of remedial plans. This section of the folder can be shown or given to the teacher or the parent responsible for remedial work and discussed in detail.

In view of time requirements, range of functions tested, and applicability of the findings to remedial work, the Durrell tests seem to provide the best single series of diagnostic tests.

The Gates Reading Tests. The Gates Reading Diagnosis Tests [4] should also be familiar to the psychologist, although the series is so long that it will not often be profitable to give it entire except for research purposes. The instructions for administering and scoring, for example, take no less than 97 pages. The materials include four sets of cards and two 12-page booklets. Of these 24 pages, 10 are left blank except for headings indicating the type of observation which should be made in the space in question. The arrangement is such that after the responses have been recorded and scored, all the pertinent data are in a single booklet. The material is interesting enough to get the subject's adequate co-operation.

As compared with the Monroe and Durrell tests, mentioned above, the procedure suggested by Gates seems

[4] See Gates, Arthur I., *The Improvement of Reading,* revised edition, and his "Gates Reading Diagnostic Tests."

awkward and diffuse. This is perhaps a natural result of the fact that it is more comprehensive in scope. The inclusion, for example, of four associative learning tests is an especially good feature, and the same can be said of the four memory span tests and some of the others, as the visual perception tests, calling for the detection of similarities and differences.

The Monroe, Durrell, and Gates tests do not represent the only batteries of tests available for diagnosis of specific reading deficiency. But these three are representative of the best which has been done, and this brief discussion is sufficient for the purposes of this chapter. It is worth noting that in each of these scales, indeed in any good scale of the same type, it is possible to omit or to add tests at will. It is significant also that no attention has been given in this discussion to the standardization of the scales or their component tests. The omission has been deliberate. The standardization is important if the tests are being given as part of a school survey, or as a step in a research problem, or in any other way which involves their application to unselected children, especially if group comparisons are to be made. But there is a good deal of reason to doubt whether a grade score or age score based on the usual type of standardization data is more than a figure of speech when applied to children with specific reading deficiency.

In conducting an examination it is often well, after tests of general intellectual ability have given some acquaintance with the child and gotten him used to the examiner, to have the child do some simple reading test, such as the Gray Oral Reading Check Test. This is quickly administered, and performance on it will indicate which other tests to use.

Informal Testing Devices. As a next step, it is convenient to use one or the other of two informal testing devices, depending on the child's proficiency level. Children with almost no reading proficiency may be asked to copy a paragraph from the Gray test. At one extreme will be the child who makes a fairly fluent copy; at the other, the child who draws his copy as laboriously and uncomprehendingly as an American copying Chinese. Errors made in copying will of course be significant. Equally significant in some cases will be the number of times a child needs to refer to the model in copying a given word. When this is compared with his digit memory span, it is sometimes apparent that his operating span is lower than it should be. If this proves to be the case, a very little teaching will bring considerable improvement in the child's efficiency. Another important fact frequently revealed by this informal copying test is the child's ability to recognize letters. It is often true that a child who is unable to name the letters when they are presented separately, or to give correct sounds for them, is able to make correct copy from print into a cursive script. This is helpful to the examiner not only as an indication that the child is able to make the visual discriminations needed in reading, but also as an indication of the type of teaching he has hitherto received.

A similar informal procedure, to be used with children at a higher proficiency level, is to request that they write a brief account of the things they have been doing in the examination. After reading a few such paragraphs, the examiner will know what to expect, and he can learn a good deal about the child from the errors made.

Whichever of these devices he uses, the examiner is freed somewhat for getting materials ready for further

testing or for scoring tests already administered. A brief period of working with as little supervision as possible is a useful part of the examination, if the examiner makes it clear at the outset that he is willing to help and satisfies himself from time to time that the child is not becoming discouraged. A good deal of help may be needed—demonstrations of how to form letters, spellings of words, or leading questions which will help the child phrase what he wants to say. But if the help is given in a generous and friendly manner, rapport through the rest of the examination is likely to be good. The examiner should know, before the writing has been finished, whether the performance is a creditable one. If so, he should read it at once and give praise; if not, he should lay it aside to read while the child is doing something else, and spare him the embarrassment of sitting silent and watchful while the examiner looks at the paper. It takes usually only a moment to record the amount and the nature of the help given.

The free composition method just suggested is especially useful in cases where bilingualism or foreign-language background may be involved in the suspected reading deficiency, since if the examiner has given sufficient help, the result should give good evidence for the record of the way the child uses or thinks in English when reading is not involved. In some cases of this type, this one performance alone is enough to rule out any question of a deficiency specific to reading, although it will not, of course, relieve the examiner of the responsibility of making constructive suggestions for handling the child.

Other informal procedures may be devised to fit purely local conditions. The author's work, for example, in-

volves the examination of numerous Japanese-American children, many of whom are bilingual and attend Japanese-language schools in addition to the schools giving instruction in English. In spite of the examiner's total ignorance of Japanese, it has proved useful to have one of Aesop's fables in a simple Japanese text. The child is asked to read it silently and report in English. In practice some children will prove to be slow in reading, and incomplete or inaccurate in recall, while others will attack the Japanese text with a confidence and a pleasure that contrasts sharply with their approach to reading in English.

Many other tests, formal and informal, might be mentioned. Some of them, like the last named, would be merely local in their application, and some of them would not be closely connected with reading. But it is hardly necessary to list more of them, if the reasons for their use can be made plain.

In selecting tests for analytic use, either informal tests or those from the scales mentioned above, the examiner is hunting for performances which will show him as clearly as possible: (1) what the child's motivation is; (2) what the child's reading performance is; and (3) something which the child can do well.

Examples of informal tests for school subjects are given in the appendix to this chapter, pages 440 to 457. The young child's rate of learning also may be judged by these tests.

The Remedial Program. Assuming that evidence is already at hand covering such items as the child's physique, sensory equipment, general intellectual ability, home background, and school history, it should then be possible to suggest a remedial program and to predict

with some confidence how successful that program is likely to be.

If in doing all this the psychologist can also assign a reason for the existing retardation, well and good. But it is never essential, and it is sometimes impossible for him to do so. The most fruitful present approach to the problems of specific reading deficiency seems to be one which is agnostic as to cause, or at least does not search for *past* causes, but goes directly at finding out: In what ways is today's performance unsatisfactory? What teaching methods are likely to be successful at the present time?

There are two reasons for adopting this point of view. In the first place, such explanatory concepts as word blindness, developmental alexia, and strephosymbolia are never convincing on the side of theory. Secondly, experience in supervising the work of student teachers doing remedial teaching has indicated that hypotheses as to etiology in a given case have far less influence on the success of the remedial program than such items as the energy of the teacher, her adaptability, and the amount of confidence she can instill into the child.

Other things being equal, the best method for the remedial teacher to use will be one which has not previously been tried with the child in question. But the most important features of a remedial program are flexibility and inventiveness, so that methods will be constantly adapted to the child's attained level.

Obviously, if prediction rather than belated discovery of reading disability is the clinical aim, then the earlier the child is examined, the better. In the following appendix are described some of the methods which can be applied at the very outset of the child's educational career.

Appendix to Chapter XVII

Learning Gradients

With all the interest that is now being taken in remedial teaching, the psychologist will often be faced with a demand to investigate more fully the nature of the child's difficulties, and, more important still, he will be asked for practical suggestions with regard to the methods of instruction that should be applied in the exceptional case, especially when the disability has been discovered early in the primary grades. Unfortunately, his academic training, unless it has been specifically directed towards work in a psychoeducational clinic, rarely equips the psychologist to act as teacher. Because of this fact, this appendix has been added to Dr. Herrick's chapter, outlining in detail the initial steps of a visual instruction method specially designed to provide easy gradients for the young, handicapped child's approach to reading, number work, and writing.

Another reason for the inclusion of this material, and one perhaps more in keeping with the aims of this book, is that it will serve the purpose of a teaching-testing situation. Described elsewhere are various means for diagnosing and classifying reading disabilities, but these are time-consuming in application; and for the clinic doing general psychological counseling, the opportunity to make a thorough diagnostic study of the case may be initially lacking. The psychoclinician may need to have at his command some measure of the child's educational potentialities, and either a general or a specific test may not provide this. Under these circumstances, there is no better way than to give the child a specimen lesson and

note the amount of progress achieved. At the same time, the psychologist will get invaluable insight into the child's working habits, emotional set, and general attitude in the learning situation.

For older cases in which time is available for more complete study, the methods outlined in Chapter XVII may be used.

Visual Instruction Methods. On the assumption that one of the commonest basic deficiencies among educationally retarded children is an inferior rote memory, the teaching demonstrations in the three R's have been arranged so as to make special use of visual memory in reading and number work and of memory for movement or kinesthetic memory in writing. In a 10-minute lesson the examiner can obtain a most useful check on the teacher's statement as to the child's capacity to learn. If the general mental examination indicates a weakness in visual memory, then obviously the methods described are not applicable. Experience with backward and defective children leads to the conclusion that a relatively poor visual or motor memory is a rather infrequent condition. In the case of the truly defective, sometimes both visual and auditory memory may be defective; but to have a poorer visual memory than auditory memory is comparatively rare. It seems that the older the channel of learning, the less often does it appear to be underdeveloped.

Reading disabilities rather than deficiency in number work are more commonly stressed in the educationally—but not mentally—handicapped. This may not mean that they are more frequently observable, but simply that they are more important. Obviously slowness in reading and comprehending printed material will have consequences right through the school career, so that it is even worth

while to examine the reading habits of high-school and university students who are falling short in their work. The disadvantages of poor reading are much more noticeable than mathematical disability, although in certain cases the latter is extremely important.

Aim and Scope of Demonstration. The methods described in this appendix must, of course, be limited in scope, since they provide only the initial steps; but by their continued use, easy progress on the part of the backward pupil will be assured for at least several months. The consciousness of achievement even in the elementary stages has a tremendously encouraging effect on the retarded child, so that he may go on to the harder steps with greater confidence. A teacher with ordinary ingenuity can easily build on the foundations laid down and will in turn be heartened by seeing some of her backward pupils surmounting what seemed to be insuperable handicaps to progress.

No claims are made that these devices represent a *best* method of teaching. The only recommendation that is justified is that they have been tried out with extremely backward and very young pupils and that steady progress has been observed. The material is largely self-corrective; a large amount of review work is provided by the material itself; and the child usually becomes interested, so that a minimum of supervision is necessary. All these considerations will commend themselves to the harassed and overworked first-grade or second-grade teacher. Provided the psychologist is not too dogmatic in his claims, teachers generally are willing to accept these diagnostic teaching demonstrations gladly, especially as they suggest that the examiner knows something about their common classroom problems.

Visual Reading Methods. The visual method in teaching reading dates back to the days of Montessori, and probably to long before that period. The procedure herein described is familiar, except that Montessori or other similar systems provided for the teaching of single words but did not show how phrases or sentences could be dealt with.

The materials required are five pictures, preferably of animals in action, and cardboard strips on which are printed the names of the animals, their actions, and parts of the animals' bodies. In the set of reading material in use at the clinic, there are 72 words, which can be placed by the child in their appropriate positions on the pictures. For a very young child beginning reading, the teacher takes four cards and, naming the words as she does so, places them on the pictures. The strips are then removed and the child replaces them, the exercise being repeated until the child can place them correctly, no matter in what order they are presented. With older children the initial steps are quickly gone through, so that in a little time 10 or more name-strips can be placed correctly. The association of the printed word with the pictured object is obviously a great help in the learning process. The child realizes the "belongingness" of the word and it becomes part of the visual *gestalten*. In terms of our theory of learning as discussed in Chapter III, the child has an anticipatory perception of the name placed on the pictured object, and the placement of the word completes the circuit. As the child performs the action, he is encouraged to say the word aloud each time—his first exercise in reading.

Basic Exercises. No matter what the visual form is that is to be remembered, three and sometimes four re-

lated exercises are necessary as checks on learning. The correct placing of the names of the things or actions is the first. In the second, the teacher asks the child to point to the words designated by her in turn. The third step is to ask about each word, "What is that?" The fourth exercise is usually only used at later stages when spelling is combined with reading. It is a visuo-motor exercise, useful in the analytic and synthetic process of learning to spell. The teacher traces the word slowly with her finger on the table, the child being required to pick it out. If the first three exercises are carried out with each new word, there will be no doubt as to the thoroughness of the learning. The psychologist, by noting where the child experiences difficulty, will obtain invaluable diagnostic and prognostic indications. The names of actions are introduced at an early stage, with the explanation that this is what the animal is doing, and these verbs are used later in the building of sentences.

Reading Material. *First Stages.* The simplest possible phrases are now introduced and are formed by adding the articles *the* and *a* to the names. The next step is to use strips combining adjectives with nouns, and these are placed in the same way as the single words. The cumulative steps are very easy ones, for the child who has learned the word *nose* singly will be helped in his recognition of the phrase *a black nose.*

At this stage link words, such as *has, is, are, on, by,* should be printed in different colored ink and taught to the child, using the look-and-say method. When these are known, the pupil is ready for simple sentences. In order to make the matter clear, the reading material connected with a single picture is given in detail. The other four pictures provide similar reading exercises.

The first picture that we use is that of a pup dressed in coat and pants, sitting on a chair, with glasses on his nose, reading a paper held in his forepaws. The following material is printed on separate cardboard strips:

Words:	pup, chair, paper, nose, eyes, glasses, paws, ears, sits, reads, holds
Phrases:	the pup, the chair, the paper, long ears, black nose The pup's ears, The pup's nose, The pup's paws
Link Words:	is, are, has, on, at, his
Sentences:	The pup sits. The pup reads. The pup has long ears. The pup has a black nose. The pup reads the paper. The pup's ears are long. The pup has glasses on his nose. The pup's nose is black.

These sentences, like the single words, should be placed in appropriate places by the pupil. For example, "The pup has a black nose" should be placed across the animal's nose.

From these examples it will be seen how easy the learning gradients are. There are no sudden changes in complexity, the additions to the reading matter being made gradually, with abundance of repetition provided.

After the child knows all the words and sentence which go with the first picture, the second one is added. For the purposes of testing, two or more pictures may be used with single words, the phrases and sentences being added later; but the order in which the teaching is done is rather immaterial. Little difference in the progress of the child has been noticed when the method was adopted of using all five pictures and teaching the single words before beginning the phrases.

By mixing the cards and requiring the pupil to sort them out and place them in appropriate positions on the

proper pictures, a very large amount of review work is given. As the order is haphazard, there is no learning the reading material by heart. The child works by himself, and the examiner is called upon only to check the accuracy of the work when completed. The children usually enter into these exercises with the zest of a game.

Sentence Reading. The next step is the familiarizing of the child with variations of the form of sentences. This is done by printing a number of sentences, half of which are true in relation to the pictures used and half of which do not apply. The child is required to sort the sentences into two groups: those which can be answered in the affirmative and those which should be answered negatively. This exercise again necessitates reference to the pictures, and once again printed words become associated with actual things and situations. Thus reading becomes meaningful and purposeful to the child. This is much better than labored repetition of sentences in a primer—statements that in the child's mind have no relation to reality.

For illustrative purposes, the 8 questions for the picture already described are given. Before giving the child this exercise, the ending *ing* should be called to his attention, so that its addition to words already familiar will not puzzle him.

Has the pup glasses on his nose?
Has the pup with the glasses long ears?
Is the pup read-ing the paper?
Is the pup sitt-ing on the chair?
Is the pup look-ing at his paws?
Has the pup a white nose?
Are the pup's eyes white?
Is the pup sitt-ing on the floor?

Similar sentences are arranged also for the other four pictures. Thus in the whole series no less than 40 sentences must be manipulated correctly in each complete exercise, yet no new words are introduced.

Introduction of Phonic Elements. So far the method is merely a systematization of teaching techniques that have been more or less in use since Montessori's day, ingenious teachers having in many cases elaborated her very simple first steps in reading. The difficulty now to be dealt with is that the child has not learned to recognize the common elements in words, having had his attention focused on differences rather than on similarities in the various word-configurations that have been presented to him.

In some cases, where auditory memory and association are very weak, it may be necessary to continue with a wholly visual method, adding more pictures, until a large reading vocabulary has been built up. Obviously, however, this method is merely cumulative, and it will be a long time before the child will be able to use known elements in new situations. Furthermore, having become familiar with words as pictured wholes, he may find their analysis and synthesis in spelling a difficult operation.

The method described below introduces a very modified phonetic procedure by which the child learns only the consonantal sounds at the beginnings of words and is taught to recognize the common elements as word pictures by the look-and-say method.

Initial Consonants and Word Families. There are two stages or exercises in word building. The sounds of the consonants *c, r, m, l, s, n, b, t, h, p,* and *f* are first taught to the child three at a time, using the three learning steps previously described. The teacher says: (1) "Give me

c" (using the hard sound of *c*); (2) "What is this?" (pointing to *c*); (3) "Find me this one" (tracing *c* with the finger on the table). Then the child acts as teacher, repeating the three questions. These exercises should be repeated till all are known.

The next aim is to familiarize the child with the word endings or "word families": *at, an, all, ate, up, ip, en.* These are taught as before, care being taken, however, that those most closely allied in form are not at first presented together. As soon as these are known, the child is ready for actual word building, which is done with cardboard strips, as shown in Figure 7.

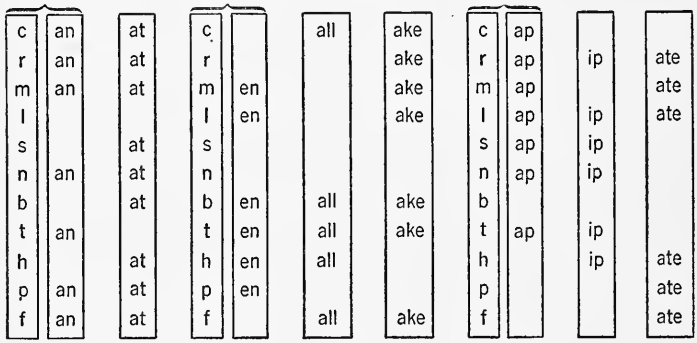


FIGURE 7. Word-building Material

The exercise consists in having the child fit the strips together so as to make words, which he then reads for himself, putting the consonantal sound alongside the word ending. This, it will be seen, differs from the more difficult phonetic methods.

Word Building. The next exercise affords further opportunity for review in word building. The different word endings are printed on slips of cardboard and the appropriate consonants on separate slips, as in Figure 8.

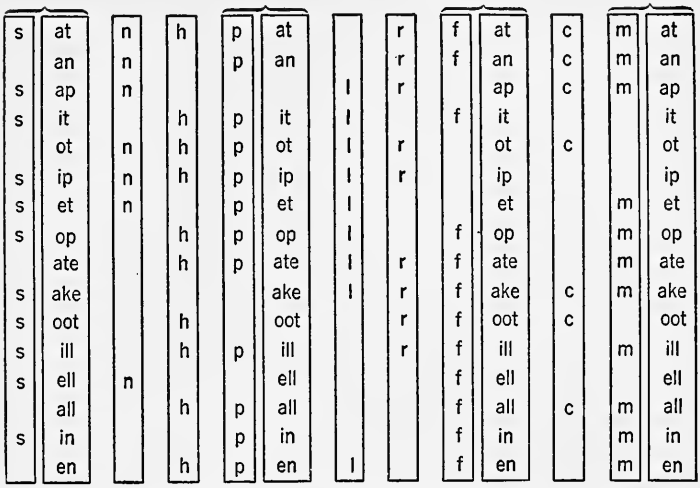


FIGURE 8. Combined Phonetic and Visual Word Building

As is evident from the figure, the child's task is to place the consonantal strips alongside the word ending, combining the consonantal sound with the ending, thus making use of a modified phonetic method, as before.

The final step is to combine the new words acquired by the partial phonetic method with those already learned. This can best be done by printing a number of true-false sentences which are to be sorted out by the child. Examples of these sentences, combining both sets of words, are as follows:

A cat can bat a ball on a hill.
A dog can not read a paper in a hall.
Ten men can fill a lake.
A cap can fit on a dog's head.
I can fill a tin with water from a tap.
A lamp on the floor can not fall.
A cat can fish in a hole on the floor.
A kitten can not look at a cake on a table.

The teacher can, of course, use any pictures and material that she chooses, provided that the steps are made as small as possible and the child is allowed to master one stage before attempting the next. The psychological examiner may use any part of the material, according to the age and the educational status of the child. If reading is reported to be the main difficulty, a few minutes of diagnostic teaching should certainly help the examiner to see for himself exactly where the difficulties occur, and enable him to make suggestions for treatment.

Causes for Reading Disabilities. In setting out these teaching methods in such detail, we have been influenced by the practical viewpoint. There are many causes for reading difficulties, and one of the first considerations is the testing of vision. This, however, is a medical rather than a psychological matter.

Left-handedness has been rather commonly supposed to be associated with reading disability, but recent studies, particularly those by Gates and Bennett,[5] minimize sinistrality as a causal factor. They found that left-handed children do not in general have more difficulty in reading than do the right-handed, nor is their tendency any greater to make reversal errors.

On the other hand, various investigators, including both Gates and Monroe, found that a distinctly larger percentage of children with reading defect have left-eye dominance, the latter finding that 40 to 56 per cent were left-eyed, as against 26 per cent of children with normal reading ability.[6]

[5] Gates, Arthur I., and Bennett, Chester C., *Reversal Tendencies in Reading: Causes, Diagnosis, Prevention, and Correction,* Teachers College, Columbia University, New York, 1933.

[6] See Monroe, Marion, *Children Who Cannot Read.*

Dearborn, in analyzing 100 clinic cases, found no less than 81 per cent either left-dominant in both hand and eye or crossed in dominance (left-eyed and right-handed, or *vice versa*). In a study by Young [7] of cases previously examined at a clinic for reading difficulties, only about one fourth of the cases were unilaterally dominant, either right or left. This seems to support the conclusions of both Dearborn and Orton, who believe that defects in reading are due to the fact of dominance of one hemisphere of the brain over the other, and that when this dominance is not properly established, confusion and inaccuracies result.

Emotional Effects of Reading Disability. A very important conclusion is reached by Young with regard to the emotional condition of cases of dyslexia, or reading disability:

> In fully two thirds of these cases, misunderstandings of psychological and physiological factors on the part of parents and teachers caused emotional difficulties in the children. Unfavorable comparisons with other children and attempts to coerce the child to read, as well as an overemphasis on the importance of reading, did, in individual instances, give the child a sense of inferiority and insecurity, to which he responded by neurotic behavior, such as stammering, nervous twitching, tics, enuresis, thumb-sucking, and the like, or in the more aggressive behavior of stealing, lying and truanting from school.[8]

It is with the knowledge that the consequences of school failure of any kind may have such serious emotional effects that this outline of the methods of remedial work has been presented here, for no matter what the

[7] Young, Robert A., "Case Studies in Reading Disability," *American Journal of Orthopsychiatry*, April, 1938.

[8] *Loc. cit.*, p. 247.

cause of the disability, whether it be mixed eye and hand dominance, a defective auditory rote memory, or poor teaching, the provisions of easy learning gradients will surely be essential to the young child's progress and educational reorganization. From every angle it is most important that the backward pupil should realize that learning is not beyond his capacity.

Remedial Number Work. The material for remedial work in arithmetic, using the visual memory training as outlined in teaching reading, is simple. It consists of a double set of cards with dots, in double line arrangement, numbering from 1 to 10. A single set is illustrated in Figure 9. The methods here described, as was the case with reading, have been established as easy gradients in learning by careful experimentation with mentally handicapped children.

Basic Exercises. The first exercise with the cards is to learn their denominations, not by counting, but as pictures or configurations. Counting to 10 may already have been taught, but it is not essential to the method. The teaching steps are the same as in reading. The first three cards are presented and named, and as soon as they are known at sight, the others are added one at a time. The child is asked to pick out the 5 card, the 7 card, and so on. He is then shown the cards and required to name them. In the third exercise he plays the role of teacher and picks out the cards, asking the teacher to name them. Review exercises consist of "flashing" the cards for about a half-second exposure and requiring the child to name them correctly.

The next step is to demonstrate to the pupil how he can make the 10 card by fitting together the 6 card and

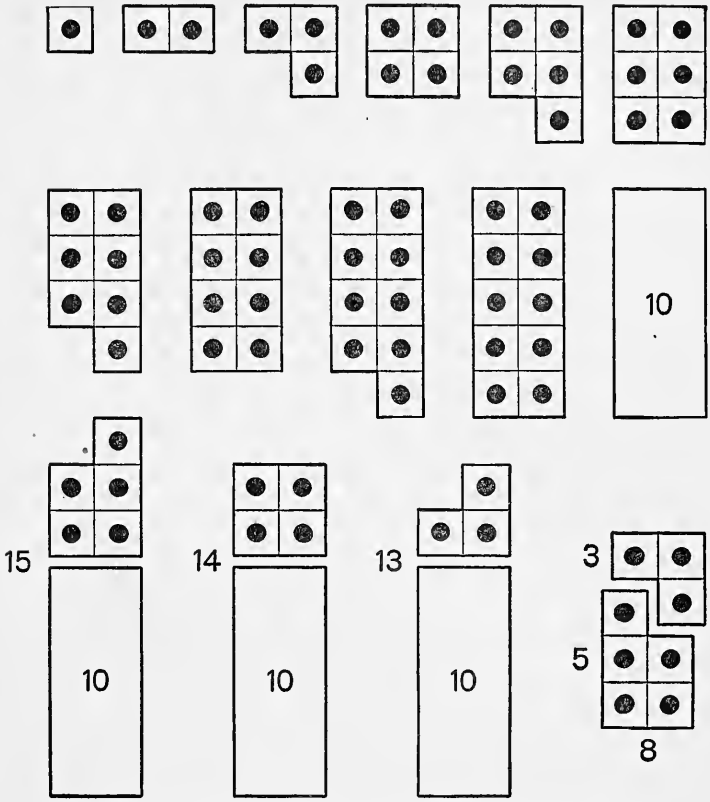


FIGURE 9. Sets of Cards for Number Combinations

the 4 card. With the blank 10 card for comparison, he is then led to find out for himself the other combinations. With practice the child is soon able to make all combinations rapidly and at the same time to repeat them orally. Complementary numbers are thus taught; as soon as he picks up the 3 card, he knows that the 7 card is needed to make the 10. Thus subtraction and addition are, as they should be, taught together.

After all the combinations that make 10 are known, it is an easy task to deal with combinations forming numbers below 10. As each of the cards has the number printed on the back, the pupil may soon dispense with reference to the dots altogether. The shape and the size of the card form the basis of association with the number, clues which seem necessary to easy learning.

Number Combinations Above 10. After all the number combinations up to 10 are known, the next step is to deal similarly with the numbers from 11 upwards. No additional cards are used, the reason being that an arrangement of 10 dots in two parallel lines of 5 each represents about the limit of rapid recognition as wholes without counting. Any beyond that number are outside the normal span of attention and counting would be necessary. The keystone of the method is, of course, rapid visual synthesis or recognition of the number cards as pictured wholes—the exact antithesis to counting.

In making the higher combination of numbers, the blank card, preferably made of transparent celluloid and corresponding in size with the 10 card, is used. Knowing that this card always represents 10, the child learns to recognize the numbers above 10 as wholes. (This is illustrated in Figure 9.) When these are quickly recognized, the child is led to discover that the same forms can be made by using the other cards in combination, as, 6 and 7, 9 and 4, 8 and 5; 8 and 6, 9 and 5, 7 and 7; 9 and 6, 8 and 7; 8 and 8, 9 and 7; 8 and 9; 9 and 9. Each pair is matched with the combination representing their sum. These higher combinations will require more drill, but if they are presented in the way described above, they present no special difficulties in learning. Very little time is required to make a set of this teaching-testing material.

It is hardly necessary to emphasize the fact that this teaching process is mainly concerned with numbers as abstract symbols and that the facts learned must be carried over to the solution of school problems in arithmetical reasoning. At the same time the constant use of the dots illustrates the concrete applications.

Writing Methods. The teaching of writing presents few difficulties to the modern teacher, partly because with the use of typewriters for all business communications the necessity for writing of copperplate excellence no longer exists. Notwithstanding this fact, the clinical examiner may sometimes need to estimate the young child's muscular tactile learning capacity. He can judge his readiness for writing by the following method.

At one time Montessori had a rather elaborate system of filling in forms with parallel lines and using the sense of touch in tracing with the finger the outlines of these forms. Further experience showed, however, that if practice of this kind was necessary as preparation for writing, it might with great advantage be given with the forms of the letters themselves. In an article published over twenty years ago, it was pointed out that the reason for failure to learn to write was not that the pupil did not know how to write but that he did not know what to write. In terms of the explanations given in Chapter III of the nature of successful or adequate responses, the child must have anticipatory pathways of response or, in other words, he must have a clear memory image of the letter before he attempts to write it. The exercises described below are intended to strengthen these anticipatory pathways of relationship or memory images.

The material is of the simplest. With a pair of pliers and some 12-gauge wire, the examiner may make himself

several sets of the letter elements shown in Figure 10, which are the ones most commonly used in writing. By combining these, practically all the words met with in the early stages of reading can be formed.

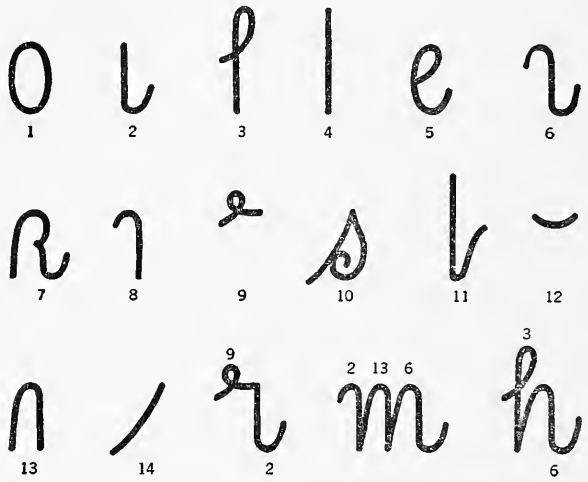


FIGURE 10. Letter Elements for Use in Writing

NOTE. The forms numbered 1 to 14 are those which, combined in various ways, make up most of the letters used in writing. The letters *r*, *m*, and *h* are given to illustrate how the letter elements are combined.

The basic exercises are similar to those used in reading and number work except, of course, that the emphasis must be placed on visuo-motor training. The child first learns as a purely visual exercise to recognize the forms by sorting them into appropriate heaps or boxes. The examiner then traces the form with the finger on the desk, saying, "Find me this one." The next step is taken when the examiner traces the two or more forms that when combined make a given letter, such as *n*, and the child

can pick them out of the boxes. The third basic exercise is when the child acts as instructor and asks the examiner to pick out the forms indicated by tracing with the finger. When this stage has been reached and the pupil is able to trace the letter forms or elements so that they are recognizable, then he is really writing. Given chalk or pencil he can begin to make his first attempts at drawing the letters. The writer has found it possible in a single 30-minute lesson with a $4\frac{1}{2}$-year-old boy to have him writing a word like *man* in recognizable script. In much less time than that the examiner can obtain a very good estimate of the child's motor learning capacity.

The connection between script and print can at a later stage be made quite plain to the child by writing the words and phrases in script on the other side of the cardboard strips used in the previously described reading exercises.

References for Chapter XVII

Betts, E. A., *The Prevention and Correction of Reading Difficulties,* Row, Peterson & Company, Evanston, Ill., 1936

Bond, Guy, *The Auditory and Speech Characteristics of Poor Readers,* Teachers College, Contribution to Education, No. 657, 1935

Dearborn, Walter F.; Anderson, Irving H.; and Brewster, James R., "Controlled Reading by Means of a Motion Picture Technique," *Psychological Review,* Vol. 2, pp. 219-227, 1938

——, "A New Method for Teaching Phrasing and for Increasing the Size of Reading Fixations," *Psychological Review,* Vol. 1, pp. 459-475, 1937

Durrell, Donald D., "Durrell Analysis of Reading Difficulty," *Standard Tests,* World Book Company, Yonkers, New York

Fendrick, Paul, *Visual Characteristics of Poor Readers,* Teachers College, Contribution to Education, No. 656, 1935

Gates, Arthur I., "Gates Reading Diagnosis Tests," Teachers College, Columbia University, New York, 1933

——, *The Improvement of Reading,* revised edition, The Macmillan Company, New York, 1935

Gray, William S., "Oral Reading Check Test," Public School Publishing Company, Bloomington, Ill.

——, *Summary of Investigations Relating to Reading,* University of Chicago Press, 1925

——, "Summary of Reading Investigations," *Elementary School Journal,* Vol. 26-32, 1926-1932

——, "Summary of Reading Investigations," *Journal of Educational Research,* Vol. 26 ff., 1933 ff.

Hildreth, Gertrude, *Learning the Three R's,* Educational Publishers, Inc., Philadelphia, 1936

Imus, Henry A.; Rothney, J. W. M.; and Bear, R. M., *An Evaluation of Visual Factors in Reading,* Dartmouth College Publications, Hanover, N. H., 1938

Monroe, Marion, *Children Who Cannot Read,* University of Chicago Press, 1932

——, *Diagnostic Reading Examination, for Diagnosis of Special Difficulty in Reading,* Stoelting Company, Chicago, 1930

——, "Methods for Diagnosis and Treatment of Reading Disability," *Genetic Psychology Monographs,* Vol. 4, pp. 333-456, 1928

National Conference on Research in Elementary School English, "Reading Disabilities and Their Correction," *Elementary English Review,* 1935

National Society for the Study of Education, *Thirty-sixth Yearbook, Part I,* 1937

National Society for the Study of Education, *Twenty-fourth Yearbook, Part I,* 1925

Orton, Samuel T., *Reading, Writing, and Speech Problems in Children,* W. W. Norton & Company, Inc., New York, 1937

Taylor, Earl A., *Controlled Reading: A Correlation of Diagnostic, Teaching, and Corrective Techniques,* University of Chicago Press, 1937

Tinker, M. A., "Trends in Diagnostic and Remedial Reading as Shown by Recent Publications in This Field," *Journal of Educational Research,* Vol. 32, pp. 293-303, 1938

Walker, Robert Y., "A Bibliography on Reading, 1930-1937," *Journal of Speech Disorders,* Vol. 3, pp. 63-64, 127-128, 187-192, 273-284, 1938

Woodworth, Robert S., *Experimental Psychology,* Henry Holt & Company, Inc., New York, 1938

CHAPTER XVIII

Psychoanalysis and Psychology

Framework of Psychoanalysis. No book that deals with work done by psychological clinics would be complete without some discussion of psychoanalytic theories and techniques. It has become the rule for writers on this subject to make some reference to psychoanalysis and to attempt some exposition of its principles, but often this reference is in the nature of a bow in passing rather than a serious or critical discussion. It must be admitted that cursory treatment or even neglect of the analyst's claims has considerable justification. The way in which the most naïve assumptions are produced from the misty realms of speculation and then elevated into the beams and girders of a whole fantastic psychoanalytic superstructure is one of the most amazing things in the history of science. The movement is characterized rather generally by the uncritical acceptance of principles supported by the flimsiest evidence, by the careless bandying of such terms as "the unconscious mind," by the egregious personification of traits and mental functions, by an extraordinary obsession with and exaggeration of sexual phases of conduct, and by a cocksureness with regard to the universality of application of so-called discoveries. It is small wonder that the worker trained in any other scientific field, where such procedures are anathema, looks at psychoanalysis with feelings of deep distrust and suspicion.

Criticisms of psychoanalytic formulations are by no means confined to the psychologists. Some of the more critically minded psychiatrists, though quite convinced of the general value of the new techniques, condemn these unfortunate trends. Thus we have Karen Horney stating her considered opinion that "psychoanalysis, inasmuch as it faithfully follows the theoretical paths beaten by Freud, seems in spite of its seemingly boundless potentialities to have come into a blind alley, manifesting itself in a rank growth of abstruse theories and the use of a shadowy terminology." [1] Freud himself expresses dislike of psychoanalysts' giving the effect "of being members of a secret society carrying on a secret science."

Value of Freud's Contribution. The lectures [2] in which the above statement occurs represent the least ambiguous and mysterious of psychoanalytic pronouncements and for the first time provide a formulation of basic theories that can with some modifications be made consistent with our knowledge of neuropsychological mechanisms.

If psychoanalytic theories could be fitted into the framework of scientific psychology, and especially if a reasonable basis could be found for them that would accord with experimental observations, then much of the resistance that has been developed against them might disappear and clinical psychologists in general might find them a very useful aid in practice. For though we could hardly accede to the claim—which has been seriously made—that Freud's "discoveries" deserve to rank with

[1] Horney, Karen, *The Neurotic Personality of Our Time,* W. W. Norton & Company, Inc., New York, 1937, p. 21.

[2] Freud, Sigmund, *New Introductory Lectures on Psycho-analysis* (translated by W. J. H. Sprott), W. W. Norton & Company, Inc., New York, 1933.

the Copernican theories of cosmology or with Darwin's theory of evolution, there is no doubt that his contribution is in many respects of the highest order.

It would be no exaggeration to say that, rigorously trimmed of its unnecessary emphases and unscientific assumptions, Freud's formulation might well be considered the psychological counterpart of a vast body of neurological research, and that single-handed he has matched the contributions of very many minds. He has provided, in brilliant fashion, the functional complement of many structural and physiological studies of the nervous system of man, and in so doing he has made possible new and invaluable interpretations of behavior.

The "Anatomy of the Mind." In the lectures already alluded to, Freud sets forth in plain terms his conception of mental topography. The superego, the ego, and the id are the three realms, regions, or provinces into which he divides the mental organization of the individual. It is the purpose of this chapter to consider Freud's map of the mind or, as he himself calls it, "the anatomy of the mental personality" and to suggest certain modifications which might make these nuclear concepts of psychoanalysis more acceptable to psychology.

The Id. Let us begin with the id. To Freud this is the inaccessible part of human personality, and he likens it to "a chaos, a cauldron of seething excitement." The id stands for "our untamed passions." Though he cannot say in what structural substratum the id blends with somatic processes, Freud's idea is that it does so and that it takes over the instinctual needs of the body and gives them mental expression. These instincts, he says, energize the id, but unfortunately these energies are undirected and unorganized except for the purpose of gaining

for the body organic satisfactions in accordance with "the pleasure principle." In short, the id corresponds to what the theologians regarded as man's baser nature, the state of natural sinfulness in which unregenerate mankind found itself, except that instead of the analyst's instinctual urges supplying the energy, the promptings came from the devil himself. "Naturally," says Freud, "the id knows no values, no good and evil, no morality. . . . Instinctual cathexes seeking discharge—that, in our view, is all that the id contains." [3] Apart from the tendency to regard instincts as entities pursuing their own purposes, without relation to the self as a whole, this description of the organic drives is acceptable.

In another place Freud identifies the id with "the unconscious." Its realms are those "large and important regions of the mind normally removed from the knowledge of the ego, so that the processes which occur in them must be recognized as unconscious in the true dynamic sense of the term." [3] He affirms that the word *unconscious* will no longer be used in the sense of a system, its place being taken by a better term, namely, *the id.*

The Freudian Ego. Apparently in accordance with the Freudian cosmogony of the mind, it is through the ego that relations between the id and the superego are brought about. It is, cartographically and dynamically speaking, a kind of buffer state or one which must, at any rate, maintain the balance of power. The ego, in Freud's view, is in constant relationship with what he calls the most superficial portion of the mental apparatus and to which he gives the symbol *pcpt-cs,* or *perceptual conscious system.*

[3] Freud, Sigmund, *loc. cit.*

Its functions or its relationships are therefore primarily sensory, although it is sensitive not only to the excitations from without but also to those stimuli which come from the internal environment. "One can hardly go wrong," he states, "in regarding the ego *as that part of the id* which has been modified by its proximity to the external world and the influence that the latter has had on it." [4] (The italics are ours.)

Though the ego is part of the id, according to the above statement, it exercises, in Freud's exposition, a measure of control over the id by dethroning the "pleasure principle" and substituting the "reality principle." It brings the id apparently to terms with reality by intervening between desire and action, delaying the response until it can bring to bear on the situation "the residues of experiences stored up in memory." Making terms with reality, rather than the blind pursuit of pleasure, holds out greater promise of security and success for the individual.

If the id represents the somatic urges, the ego would appear to be subserved by the cortex, which not only is the receiving and co-ordinating center for sensory impressions but, as we have previously pointed out, the organ of delayed choice.

The Superego. But an all-important factor in this choice is the superego. Just as the ego is part of the id, so apparently the superego is part of the ego. Here, however, there seems to be a rather confused viewpoint. The Freudian system seems to require that something or other in our nature should sit in judgment upon the rest of us. That is to say, while the ego is busy responding, those responses are being marshaled for observation, review,

[4] Freud, Sigmund, *loc. cit.*

and judgment at the bar of a superconscience. This power of self-observation would, therefore, seem to imply an inner eye and ear corresponding to the sensory mechanisms that serve the ego. The superego apparently combines this ability with its judicial functions and exercises the most complete domination over the ego, applying the most severe moral standards to it. "We see all at once," says Freud, "that our moral sense of guilt is the expression of the tension between the ego and the superego." [5] From this sense of guilt or tension proceeds repression.

Here, as we have previously indicated, the Freudian vehicle runs off the rails of reality and seemingly takes to the air of confused speculation. One can conceive of the soma as being the domain of the id and the cortex as serving the ego, but there seems no place in the neurological setup for this self-observing, judgment-pronouncing entity, the superego.

Genesis of the Superego. Nor does Freud's elaboration of the functions of the superego make matters any more realistic from the physical point of view, even though psychologically the description of certain phases of mental functions seems sound. Our superego derives its principles of conduct, its standards of behavior, originally from our parents, though the older we grow, the further we are removed from external authority and the more successful we are in establishing standards of our own. Nevertheless, these are in the main imposed upon us from without.

In Freud's formulation of this theory we find a very acute observation, and that is that the superego is not built entirely on the model of the parents' conscience but reflects the superego of *their* parents. In this way it

[5] Freud, Sigmund, *loc. cit.*

becomes the peculiar vehicle of tradition and reflects the sanctions of previous generations and of our culture in general. "The ideologies of the superego perpetuate the past, the traditions of the race and the people."

In spite of this illuminating discussion of the superego's functions, however, it still must be regarded as being situated in a neurological no man's land, having only a name and no local habitation. Let us, therefore, attempt a restatement of the "anatomy of personality," modifying somewhat these fundamental psychoanalytic concepts, in the endeavor to make them more psychologically acceptable.

Psychological Description of the Ego. The ego, as the psychologist understands it, should be the *I* of the present moment—the conscious, perceiving, responding, anticipating, planning, experiencing individual at any given period of his existence. It is the total of the exteroceptive and proprioceptive sensations of the moment plus our interpretation of their meaning and localization—an interpretation, of course, which is based upon our past experience. Obviously, the ego is constantly changing, if not momentarily, then within short periods of time, although the flow of sensations, together with their aftereffects and our ever-constant tendency to review experience, are sufficient to give to the self a sense of continuity. In agreement with Freud, we see the ego in touch with both the external and the internal environment, with its responses influenced or directed accordingly. The responses which it makes today may be quite different to those which it makes tomorrow. The rhythm of organic or sensational activity may be changed by then, and the stimulation, both external and internal, may be different. In some personalities, however, the thread of continuity

is stronger than in others, perhaps because in carrying out responses the refractory phase of activity of the various structures is longer; hence one moment's, one day's, or one year's reactions are more consistent with each other, making up a recognizable pattern. Such individuals are said to be well stabilized. In some mental diseases this perseverative tendency is weakened and life is disassociative.

Obviously, this concept of the ego does not differ materially from Freud's idea of its relation to what he calls the perceptual conscious system. But we would limit its functions to that system rather than conceive of it as exercising any control over the id. Its functions are cortically determined, but its ways are largely the ways of habit. They are determined by the influence of past experience and are represented in the neural mechanism by established circuits of response. That is to say, problems for which one has in readiness previously executed satisfactory solutions belong in the domain of the ego. A great part, perhaps 90 per cent, of our behavior is made up of these previously practiced responses—impulses which come from the organic level and whose satisfaction involves no conflict with other systems of response.

Identification of the Id. The id should be also identifiable in psychological terms. To the author's mind it represents the basic instinctual urge which we have described as the tendency of every structural division or specialization of the organism to demand through and from the organism as a whole the optimal conditions for its functioning, and to avoid by every means in its power conditions unfavorable to that optimal functioning. These demands must be met in order of urgency or importance, the order being in some instances determined phylogenet-

ically; in others, on the basis of individual judgment and experience. This basic tendency would, therefore, include the avoidance of danger and the drive for organic satisfactions of every kind, including those that are usually termed mental as well as physical.

If there is anything new in this point of view, it is the insistence that cortical functions are essentially somatic and that the division between lower physical and higher mental activities is artificial rather than real. Men have as much need to talk and think and to seek mental expression of various kinds as they have to eat and drink. Brain functions are id activities as definitely as those of the intestines. Fortunately for our effectiveness, the rhythm of activity differs for our various organic structures, making the matter of co-ordination easier.

Drives for Organic Satisfactions. How much of our conscious life is to be taken up with these organic drives will depend upon the difficulties that circumstances put in their way. Awareness is heightened by obstructing our organic rhythms. If food is lacking, the demands of the body for nourishment are going to be so insistent as to crowd everything else off the stage. Our thinking is going to be almost entirely concerned with food-getting. The rhythm of digestive activity is such that only a short interval without food or drink will enlist our every effort on its behalf. In civilized life the getting of food, however, does not usually present great difficulties.

Sexual demands are, however, less easily met. The rhythm of activity may be slower or less regular; but since the difficulties in the way of satisfaction are often greater, the feeling of discomfort may be even stronger than a normal hunger. The drive for other social satisfactions, such as communion with our kind, may be slow

to gather force, but in the end its frustration may be felt as a sense of profound loneliness. A lack of mental pabulum, such as is necessary for mental activity, which we must also class as an id satisfaction, may result in boredom so complete as to be actually distressing.

It will be noted that we are extending our conception of the id beyond the ordinary psychoanalytic boundaries, but it seems to us that this extension is psychologically sound. Freud himself places great and, we think, undue emphasis on sex satisfactions, so that sex seems to monopolize the id. While no one would deny the great strength of the sex drive, we cannot allow it to fill the whole mental horizon so completely. Obviously, the other organic demands are in their place equally important. If Freud had visited Australian aborigines at the end of a six-year period of great scarcity, as did the writer, he would have seen for himself how sex became entirely overshadowed and diminished by hunger and the struggle for existence.

Conflicts Within the Id. Organic Rhythms. Here also we obtain a glimpse of a truth apparently not recognized by Freud. It is that conflicts and repressions do not come about solely through the clash between the superego and the id, but that these conflicts may take place within the id itself. In other terms, the balance of drives for organic satisfactions must be achieved to some extent on the organic level. If I am desperately hungry, I do not require the intervention of ego or superego to control my sex instinct—that is already taken care of through the fact that only one purpose or need can occupy the focus or spotlight of attention at the one time.

It seems to be possible here to lay down a simple principle, namely, that the more rapid the rhythm, the more essential or urgent is the satisfaction of the organic need

so represented. Thus the heart, because of its rapid rhythm of activity, comes first in relevancy; next comes breathing; and thinking, drinking, eating, excreting, muscular exercise, copulating can be listed roughly in that degree of urgency. The rhythm of thinking or consciousness is marked by the resting period of sleep, and probably we can do without drinking rather longer than we can do without sleep. Obviously, if these are all id activities, there must be a balance struck between them, and if there is any conflict between them, then whichever is at the moment the most biologically urgent must take pride of place in occupying the attention or, as we might say, monopolizing the ego-expression. Because of the difficulties which society places in the way of the satisfaction of sex hunger, it often looms very large in consciousness. It is only natural that society should regulate most closely the means by which it is itself perpetuated. To regard sex satisfaction as the most fundamental human need is, of course, absurd. We must remember, also, that other drives are socially regulated, though not so strictly as sex. It is hardly true, however, to say that sex repression is the only restraint that is very keenly felt. Freedom of speech is something that man has prized most ardently, and it has become a cardinal principle in democracy, so that some men have thought it sufficiently important to die for it.

The Superego and Inhibition. Our view differs rather radically from Freud's in that we would regard the superego as responsible for inhibitions, whether they are of the type which we term moral or otherwise. For example, a hungry man may see a piece of bacon and reach out to eat it. But based on his previous experience is another response circuit in the form of a verbal judgment:

"Bacon is bad for your digestion—it makes you sick." This judgment, we think, though it is purely personal, is as much the work of the superego as any moral scruple. With another individual the judgment may take this form: "Bacon is made from the flesh of an unclean animal. It is against my religion to eat it." It seems futile to believe that two different mechanisms should be assumed to deal with exactly the same stimulus situation and the same response or, in other words, that some structural entity or condition which we call the superego is operative in one situation and not in the other. In the case of a man without either physical or moral scruples against eating bacon, the verbal judgment will be solely dependent upon his physiological state. As was the case with the id, conflicts between various motives are often present, and they must be resolved within the superego itself.

Inhibition Dependent upon Delay. Obviously, if any restraints from any direction, whether from the traditions of the past as embodied in the social organization or from within through experiences of the individual, are to be exercised, there must be some delay interposed between stimulus and response. As we have seen, this interposing function is ascribed by Freud to the ego, self-observation and repression being the work of the superego. Since self-observation must come first, the Freudian view would suppose that, in respect to any anticipated response, the superego is active first in observing the action, then the ego interposes and brings about a delay in response, and finally the superego passes judgment, allowing the response to take place or repressing it, as the case may be. Thus mental activity resembles a kind of seesaw of function or activity between the ego and superego—surely a confused view.

It would be better to ascribe to the Freudian superego both the delay in reaction and the choice of response—in short, to consider inhibition as part of the highest cortical function. Note that it has previously been suggested that the synapses provide the mechanism of delayed reaction, allowing an extension of the neural pattern of excitation, bringing the immediate stimulus-response situation within the orbit of other wider circuits of greater relevancy, or allowing for verbally rehearsed reactions upon the issue of which choice is dependent. (See Chapter III.)

Psychoanalysis and Neuroanatomy. The extension and increased complexity of the neural pattern would be equivalent to bringing to bear on the situation what Freud calls "the residues of experience." The processes that have been described would be characteristic of all actions not on the habitual level. If these modifications of the Freudian scheme were accepted, there would be no particular objections to Freud's personifications of the id, the ego, and the superego as useful working explanations to be used in the consideration of various problems of behavior. They would provide a reasonable "anatomy of the personality"—reasonable because it would agree well with our present-day neurological knowledge.

Though much in the way of confirmatory study remains to be done, Bolton's description of the functions of the chief layers of the cortex may provide an anatomical basis for the id, ego, and superego functions as we have described them. He divides these layers into three—infragranular, granular, and supragranular—and presents some evidence from post-mortem examinations of the brains of mental defectives to show that the infragranular layer constitutes the cortical representation of the or-

ganic urges, self-preservative and sexual. The granular layer appears to subserve the sensory functions, being reduced in thickness particularly in forms of sense deprivation, such as blindness. According to Bolton, the supragranular layer has the least depth in cases of mental deficiency and therefore is assumed to be the medium of inhibition and control.[6]

The Unconscious as Unverbalized Experience. But what then becomes of "the unconscious"? Is there any place in our thinking for a mental factor "the existence of which," says Freud, "we are obliged to assume—because, for instance, we infer it in some way from its effects—but of which we are not directly aware."

Without making the unconscious co-extensive and synonymous with the id, we would find little difficulty in assuming that there are in very many reactions mental factors of which we have no specific knowledge—factors which were once a part of our conscious experience but whose genesis we have completely forgotten, and others which we cannot recognize because they belonged in a preverbal period of our development.

The importance of verbal rehearsals of responses has been emphasized in previous discussions. They do not, however, form an essential part of the neural mechanism, and they can be dropped, as, for example, when a certain action becomes habitual or stereotyped. This process may be likened to a short-circuiting of the response. Examples are plentiful, as in learning to drive a car. In the early stages we may be conscious of a verbal rehearsal or accompaniment. In gear shifting we may say to ourselves,

[6] For a discussion of Bolton's work and theories, see *Brain and Mind* by R. J. A. Berry, The Macmillan Company, New York, 1928, pp. 361 ff.

"Move the lever forward halfway, then to the right, then forward," but in a little while this verbalization is no longer part of the network of response.

This matter of the dropping of the thought accompaniment—the conscious element—may be characteristic of many of our social responses. The child who suffers what he feels to be an injustice at the hands of his mother may make the verbal judgment, "I hate my mother," and proceed to revenge himself by opposing her will. This verbal judgment may be dropped from consciousness, either as a result of forgetting the injury or because it conflicts with the more socially acceptable judgment that he ought to love his mother. Though the verbal part of the circuit of response may be dropped, the feeling of resentment and the wish for revenge may persist. Thus we have the spectacle of an ambivalent person saying conscientiously, "I love my mother," and yet pursuing a course of conduct which is in consistent opposition to her wishes. We may agree with the psychoanalyst in calling the short-circuited response "unconscious" or, preferably, "subconscious."

Preverbalized Reactions. Then, too, as Watson and the behaviorists so clearly emphasize, it must be remembered that many of our attitudes may be determined by experiences that antedated our development of speech. These preverbalized reactions may underlie a fairly large part of our later verbalized attitudes, and in some cases the motivating circumstances may normally be quite beyond recall. A child who was daily slapped by an adult up to 1 year of age would be conditioned to fear and dislike of that person, even though at a later time that adult's treatment of the child should change radically to affection and indulgence. On the other hand, a complete

change in the stimulus situation by removal of the adult would surely cause a deconditioning or extinction process. It would be difficult to imagine how fear and dislike on the part of the infant could be revived if, say, after a few years the adult should return to the situation and show to the child a changed attitude of solicitude and tenderness. In other words, mental attitudes cannot be carried back to a period when recognition of the specific stimulus is not within the mental capacity of the individual. If the process is one of conditioning, the ordinary laws of the conditioned response must apply; and extinction by removal of the appropriate stimulus is one of these laws.

Psychoanalytic Schools and Viewpoints. Before proceeding further with criticism and suggestions *re* the Freudian theories, we should take note of the fact that some whose names are prominently connected with the psychoanalytic movement have felt the need of correction and change, and that as a result there are several schools of psychoanalysis at the present time. These schools of thought have dissented so sharply from Freudian orthodoxy that they have become distinguished by various labels. There is the "analytical psychology" of Jung, the "individual psychology" of Adler, and what has been tentatively designated the "dynamic relationship psychology" of Rank. Differing widely both in theory and in practice, these schools have claimed equally remarkable results in their treatment of individual cases. As a matter of fact, this perplexing condition has been referred to by Jung in his introduction to Kranefeldt's *Secret Ways of the Mind*. Having advised the student to read Adler's contribution to the subject of psychoanalysis, he says that he "will then for the first time make

the very important discovery that exactly the same cases of neuroses can be explained in an equally convincing way from the standpoint of Freud or of Adler, despite the fact that the two methods of explanation seem to be diametrically opposed to one another." [7]

Some psychoanalytic criticisms of psychoanalysis, or at least of the Freudian school, may be briefly discussed.

Karpf's Summary of Freudian Analysis. Karpf [8] has written an excellent discussion of the variants in psychoanalytic theory. We can do no better than summarize Karpf's pamphlet, with the initial explanation that our own criticisms of Freud's position were formulated in lectures some years before the writings of Jung and Adler, as outlined herewith, were known. It is evident that Freud's weak points are apparent to critics both within and without the pale.

Karpf lists four basic concepts of Freud's system:

1. "The foundational concept" of the unconscious and the related idea of repression
2. Psychosexuality, especially infantile eroticism, and the related idea of sublimation
3. Treatment concepts, including resistance, transference, and the various psychoanalytic techniques of dream analysis, symbolism, etc.
4. Freud's theroies of id, ego, and superego.

Speculative Basis of Theories. Karpf is careful to point out that much of this theoretical framework is interpretative or speculative. For example, Freud's postulation of the unconscious rests on the fact that we cannot

[7] Kranefeldt, Wolfgang M., *Secret Ways of the Mind* (translated by Ralph M. Eaton), Henry Holt and Company, Inc., New York, 1932.

[8] Karpf, Fay B., "Dynamic Relationship Therapy," *Social Work Technique,* March, May, July, 1937.

at any time trace the genesis of much that is in our conscious experience. From the additional fact that the patient frequently develops resistance to thinking along the lines on which the analyst wishes him to think, there has been developed the concept of repression. Karpf says:

> It is clear that "the unconscious," the foundational concept of psychoanalysis, is not a matter of observation, in fact cannot, in the nature of the case, be a matter of observation. It is an interpretive or inferential concept based on observation with all the possibilities of error that may, as we know from the history of thought, creep into such a process. The same may be said of the concept of "repression." [9]

In short, these fundamental concepts are to be regarded simply as working hypotheses.

Somewhat uncompromising is Karpf's view of Freudian psychosexuality, which is based on conclusions arrived at by means of the free association method. Pushed far enough back historically, the association process inevitably reaches back to infantile experiences; and since, as Karpf mentions, the Freudian analyst attaches such importance to the sexual, the content of the associations are likely to be sexual in character.

Jung's Psychoanalytic Concepts. Jung's point of departure from the orthodox path was his rejection or modification of the libido as wholly or predominantly sexual. His concept of libido would agree with our own as identifying one fundamental instinctual urge expressing itself in all kinds of physical and mental activity which, like Bergson's *élan vital,* cannot be interpreted as unorganized or lacking in factors of control. In our own view, the very fact that it is so diversified in expression sug-

[9] Karpf, Fay B., *loc. cit.*

gests at once a system of counterbalances, compromises, and inhibitions without which it would be dominated by some specific need. This devotion of the libido to one end, or diversion of the *élan vital* into one channel, is a common enough phenomenon, but to realize that at certain times one purpose is dominant does not mean that there are no other purposes, no other drives. Hence to consider libido as entirely sexual is to make the part larger than the whole. Jung came to regard Freud's doctrine of psychosexuality as "an unjustifiable extension of the legitimate meaning of the term *sexuality,* and especially as an unwarranted projection back upon the infantile period of the adult differentiated viewpoint, more particularly of the adult pathological viewpoint." In other terms, the theory of infantile sexuality depends upon events in infancy, recalled and interpreted by psychoneurotics through the medium of subsequent adult experience. No matter how many case histories are cited, this is an inescapable fact.

But Jung unfortunately changed one faulty emphasis for another. He was led to postulate the collective or racial unconscious. This theory presupposes the hereditary transmission of ideas or specific memories, since in no other way could what he calls the "primordial images" be preserved. How such a theory ever gained any measure of scientific consideration is inexplicable. To make it plausible, even to a small degree, it would have to be assumed that human thought is on the same level as instinctive activities, such as nest building.

Interesting developments were Jung's classification of personality types in terms of introversion-extroversion and his viewpoint that the solution of the present difficulties of the patient is more important than their historical

interpretation. From the therapeutic standpoint, Jung's position seems more practical than Freud's. He endeavors not only to analyze but also to reconstruct the personality, and he rightly considers that a Freudian analysis often leaves the patient in a most dangerously disorganized and rudderless state. Cure of neurosis is, as he so wisely points out, "a moral problem and not the magic effect of the revival of memories."

Adler's Theories. Adler's views and general position seem to be somewhat more familiar to readers in this country. Extreme popularity has been achieved by his theory of the inferiority complex and compensatory strivings, the "will to power." These concepts have many practical applications, especially in the understanding of apparently compulsive antisocial actions.

At first Adler worked out his theory on a basis of organic inferiority, finally developing it into a consideration of inadequacy in relation to achieving inner harmony between social goals and achievements. He stresses the importance of family background, style of life, social co-operation, and interest; and he insists on viewing the activities of the individual as the expression of a unified personality, whereas Freud would make personality subordinate to sex. Karpf again achieves extreme clarity of description in a summary of the Adlerian approach:

> He [Adler] has stressed the need of studying the total personality as a dynamic and indivisible unity in respect to all the manifestations of behavior, and furthermore, in intimate positive interrelation with the social background, more particularly the immediate social background represented by family and other direct associates.[10]

[10] Karpf, Fay B., *loc. cit.*

The Study of the "Total Personality." We prefer to state the study of the total personality as an aim rather than a need, though in many instances the goal is unattainable. In all this discussion of human behavior there seems to be inherent a faith in psychological determinism. Given certain antecedent conditions, add to the sum of the influence of family, parents, associates, education, and all the other facts in the social history the individual's abilities, traits of temperament, and disposition, and you have as an outcome a particular form of behavior or a specific act. Candor, however, compels us to admit that very often the sum adds up wrong or some unknown factor has been left out of the calculation. Man is a creature of whims and caprice as well as of habit, and he may suddenly perform some act entirely out of character. He is like an actor, well schooled in his part, who suddenly deserts his lines and insists on telling his own story. For example, the miser may astonish us by some act of great generosity, the habitually prudent man by some unimaginable folly; the careless and irresponsible man may become calculating, the drunkard may turn teetotaler, the tyrant may become submissive, and the sane may become insane.

It would seem to us that Freud's view of a conflict between the reality and the pleasure principle seems to characterize more truly, if more dramatically, what really takes place in human behavior. The sense of perplexity, of being impaled on the horns of a dilemma, of ambivalence, that makes us act so inconsistently, seems to be adequately described as *conflict*. This, however, is merely a matter of description. Adler is correct in his appreciation of the importance of all the strivings as well as the sexual, and particularly of the urge towards

social recognition and approval. It is true, as Karpf points out, that Adler's psychology comes nearest to the concepts of social and individual psychology.

Therapy and Analysis. Like Jung, Adler emphasizes the constructive nature of the analytic process, and since he directs his efforts to adjustment in three fields wherein a feeling of insecurity is most common—social relations, economic standing, and love—he comes very close to a broad attack on the problems of clinical psychology. Our chief quarrel with him is on the grounds of a too narrow and too specific basis of explanation. Just as we cannot believe that affection is sublimated hate, we see no reason for regarding the "will to power" as being in every case a compensation for a felt inferiority, whether its basis be physical or mental. There seems no real reason for this pairing of opposite traits, as though each were the obverse or the reverse of a coin. The coin may be stamped on one side only. The will to power may be not the result of a compensating mechanism but the direct expression of a sense of superiority.

Rank and Psychoanalysis. The fourth school of psychoanalytic thought is that associated with Rank. Here the author must be gratefully dependent upon interpretation of Rank's psychology by others, for he must confess that he finds Rank's expositions decidedly difficult to follow. It is a relief to know that somebody is able to understand and is willing to set forth Rankian philosophy.

The distinction between Rank and other schools of psychoanalysis is thus summarized by Karpf:

> All in all, he [Rank] places emphasis in terms of his will concept on the active, positive, and creative aspects of behavior in the sense of active self-expression and control of adjust-

ment, in contrast to the passive, negative, and deterministic aspects stressed in Freudian doctrine, and to a lesser extent also in Jungian and Adlerian doctrine. . . . The individual, according to him, as according to American thought generally, does not merely adapt himself passively to his environment; he also controls, directs, and molds it.[11]

Fascism and Rank's Philosophy. It can readily be appreciated that if we carry out Rank's idea to a logical conclusion, this controling, directing, molding force in the individual must be directed against his fellow men, since they form the most important part of a man's environment, and the most effective individual will be the dictator. According to Fromm,[12] in an article in which he contrasts the Freudian and Rankian philosophies, these complications have by no means been overlooked by Rank. He would divide mankind into two groups: the powerful and the powerless, the slayer and the slain. Those who slay are "the lordly natures, the men of will." Those who slay themselves and thus escape being sacrificed are the neurotic.

In Rank's thinking the search for truth is not only unavailing but dangerous. He says:

> Our seeking the truth in human motives for acting and thinking is destructive. With the truth, one cannot live. To be able to live one needs illusions, not only outer illusions such as art, religion, philosophy, science and love afford, but inner illusions which first condition the outer. The more a man can take reality as truth, appearance as essence, the sounder, the better adjusted, the happier will he be.[13]

[11] Karpf, Fay B., *loc. cit.*

[12] Fromm, Erich, "The Social Psychology of Will Therapy," *Psychiatry*, May, 1939.

[13] See Fromm, Erich, *loc. cit.*, p. 229.

In the light of these beliefs, there is little need for Fromm to point out the obvious similarities between Fascist and Rankian philosophy.

Opposite Interpretations of Rank's Ideas. A consideration of Karpf's and Fromm's characterizations of Rank's systems reveals absolutely opposing interpretations. This may be due to Rank's inconsistency of statement, for example, his identification of the neurotic with the creative type in one place and with the submissive "slave" type in another. This inconsistency of statement is in fact noted by Fromm. If the latter's interpretation of Rank's ideas is to be accepted, as the quotations given would seem to prove inevitable, then the present popularity of this school of thought with American social workers is somewhat difficult to understand.

The psychologist would undoubtedly take the middle ground. Though admitting that there are the submissive and the dynamic, the slayer and the slain, we may avoid being either. We may admit the dynamic force of self-realization and the individual goal of self-continuance, and yet reconcile it with social participation through self-restraint. We may agree that the attainment of final truth may be an illusion and reality basically no more than appearance, yet still realize that these are mere philosophical verbalizations. Living may be a process of the adjustment of an inadequate individual to an unsatisfactory world, but from the pragmatic point of view this only means that the psychologist and the social reformer work on the problem of adjustment from two directions. Eventually they may meet. When there are no more inadequate individuals, or when the world is entirely satisfactory, the problem will be solved.

NOTE. The references for Chapter XVIII are on pages 505-507.

CHAPTER XIX

Psychological Analysis

Using the discussion of psychoanalysis contained in the preceding chapter as a basis, we may now attempt a more concise statement of what is and what is not acceptable to scientific or academic psychologists in the Freudian theories and, on the strength of that appraisal, select the most reliable techniques for clinical application. Such an appraisal is necessary, because the tendency on the part of many social workers, educators, and psychiatrists has been to adopt psychoanalytical explanations of behavior very uncritically. In America attitudes towards Freudian doctrines have varied between bitter rejection and undiscriminating approval; only now is there apparent any definite tendency to select the wheat from the chaff.

Unsatisfactory Methods of Proof. In the long run, it is the psychologist who must supply the balances on which to weigh the theories of this so-called "new psychology," for unfortunately ordinary clinical practice does not provide the test of those theories.[1] People are most suggestible with regard to anything in the guise of science, and the patient may accept with satisfaction an explanation of his troubles and report improvement from a neurotic condition even when that explanation is really unsound. There are many devils cast out in the name of Freud, but this by no means establishes the truth of his theories.

[1] This point is well emphasized in an excellent criticism of psychoanalysis in L. F. Shaffer's *The Psychology of Adjustment,* Chapter XIV.

That the psychoneurotic patient gets well is not proof of the scientific validity of the treatment, since almost worthless patent medicines are often established in popular favor by thousands of testimonials. Similarly, the psychologist is not impressed by the fact that it is becoming the fashion among psychiatric social workers to use explanations of human conduct that echo, but without real understanding, such phrases as *ego* and *libido satisfactions, Oedipus complexes,* and the like. The term *libidinal weakness* is likely to become as shopworn as *inferiority complex.*

Significant Contributions of Psychoanalysis. From the standpoint of the consulting psychologist, we would list the most significant contributions of psychoanalysis as follows:

(1) *The Subconscious.* Many of our responses form part of a long chain of stimulus-response situations, the original links of which are lost to view and cannot be identified in consciousness at the time of reaction. In other words, mental activity is a *continuum* but is seldom apparent as such. This means that the whole motivation of aspects of conduct may not be understood even by ourselves.

For these forgotten or unrecognized factors in motivation, the term *subconscious* is preferred because, though they are not ordinarily in the focus of consciousness, they once were and might be again. Few of them, however, that have their genesis before speech habits were established are recoverable. Summed up, these unrecognized factors account for many of our attitudes, our prejudices or predilections, our temperamental strengths or weaknesses.

Even in a technically simple physical activity such as shooting at a mark many factors either dimly appre-

hended or not recognized at all enter into success or fail ure. My hand may shake for purely physiological reasons, due to the drinking of too much coffee for breakfast, or because of an emotional disturbance recently experienced, or because of a realistic anticipatory fear of the report and the recoil of the gun. To trace the genesis of these factors or conditions might take us all the way back to infancy. Another cause for failure may be a temperamental impulsiveness or an aversion to patient, careful action. Finally, I may make a bad shot for sensory reasons, such as failing sight, or because of an intellectual failure to remember to gently squeeze the trigger instead of pulling it. I may be quite unaware of some of these factors, though all are in operation. If, therefore, there are some hidden or submerged components in such a simple operation as shooting at a mark, there are even more likely to be many in a social reaction. Hence we can approve heartily of G. Stanley Hall's analogy that the readily understandable basis of our actions is like the part of the iceberg which is apparent above the surface of the water but which is really supported by that larger sunken portion which corresponds to the subconscious.

(2) *The Importance of Childhood Experiences.* In the light of these facts we may appreciate the new emphasis Freud has placed on childhood experiences as dynamic factors in later behavior. The only feasible explanation of many of our deeply embedded and most abiding attitudes and reactions and principles of conduct is that they were first determined by various emotional experiences and influences in infancy. For example, a firmly established timorousness with regard to strange dogs is linked in my mind with vague recollections of a large dog barking in my face when I was a very small child. Here again

we may follow Watson's suggestion that many experiences which still have an effect on us belong with preverbalized organic sensations.

(3) *Concepts of the Id, the Ego, and the Superego.* As previously indicated, in clinical practice the concepts of the id, the ego, and the superego may be regarded as useful, explanatory personifications of mental functions, provided that the modifications proposed in the last chapter are accepted. It cannot, however, be too seriously emphasized that these are merely working explanations and that id, superego, and ego are connected at all points and are not to be considered separate entities, though Freud sometimes speaks of them as such. Freud says, "I hope that in postulating the existence of a superego I have been describing a genuine structural entity and have not been merely personifying an abstraction such as conscience." [2] Yet in other places in the same lecture he speaks of the superego as a function of the ego, while regarding the ego in turn as part of the id. The view that these three are interrelated mental functions, operating through specific neural mechanisms, would be more acceptable to academic psychology than the idea that they are separate structural entities which normally pursue their own purposes independently or in conflict with each other. Except perhaps in pathological cases, every mental activity is co-ordinated with the rest of the mental life.

(4) *Extension of Meaning of "Libido."* Freud's idea of the libido is similarly acceptable, provided only that its interpretation extend beyond the sexual sphere.

[2] Freud, Sigmund, *New Introductory Lectures on Psycho-analysis* (translated by W. J. H. Sprott), W. W. Norton & Company, Inc., New York, 1933. See pp. 96 ff.

As Jastrow so aptly remarks:

> It is useful to have a word—a most generic word—to summarize the basic *x* that keeps life going. Call it energy; call it the *élan vital;* call it the composite of the vital urges; call it the zest and the interest in living; recognize that it is biological in core, but acquires a rich psychic overgrowth in which it lives and moves and has its complicated being; and you have libido.[3]

We are fully aware that over and over again one finds the disclaimer in Freud's writings that the libido is sexual, yet over and over again all other interpretations are diminished in importance and the libidinal urge appears solely as a form of sex desire.

We cannot emphasize too often our own summarization of human dynamics—that in every organism and in each structural part of that organism there is a tendency to seek the optimal conditions for its functioning and to avoid everything that hinders that functioning.[4] This statement relegates sex and the sex organs to their proper place in the total organic situation. If it is convenient to extend the term *libido* beyond its sexual connotation, we have no objection to applying it, as Jastrow does, as a generic term to this fundamental biological urge which we call living.

(5) *Other Concepts Acceptable in Clinical Practice.* The clinical psychologist recognizes and uses many excellent concepts that form part of psychoanalytic techniques or theories. Rationalization, for example, is exemplified

[3] Jastrow, Joseph, *The House That Freud Built,* Greenberg Publisher, New York, 1932, p. 149.

[4] The cortex through its control of the voluntary muscles is to that extent the arbiter of action. Thought is also its function, which may become so painful through manifold frustrations that the final act of escape—suicide—is decreed.

constantly in our own and others' behavior. We are eternally busy finding reasons for conduct that in other respects appears entirely unreasonable and unjustifiable. We are such confirmed rationalizers that once we have arrived at a satisfactory verbal formula, our feelings of disquiet and compunction are often relegated to the subconscious background or are completely forgotten. Rationalization is a familiar concept in psychology.

Projection of our feelings or motives into others is also a well-known mental phenomenon, as is also the mechanism of overcompensation, one well-recognized example of which is the excessive dignity or pompousness of the physically small man. No one would deny, either, our tendency to use all kinds of symbolism, thought itself being so largely on a symbolic level. The conflict between the pleasure principle and the reality principle is a very good way to epitomize the adjustment that must take place between the organic drives and the restraints that morality sets up for those drives. The emphasis which psychoanalysis puts on child-parent fixations is one of the most useful signposts in clinical psychology, though we must beware of using this explanation of conduct too readily. Parent-child oppositions are just as common as fixations. In this connection psychoanalysts have rendered a great service by pointing out how deeply rooted a sense of guilt with regard to family responsibilities and relations may become, and how we may compensate for this by self-punishment of various kinds and degrees. Ambivalence is another characteristic of human attitudes that is rightly stressed by psychoanalysts. "Ambivalence," says Jelliffe, "in the unconscious is as inviolate as the laws of gravity." There is, however, little need to localize it only in the unconscious. There are no unalloyed emotions,

and, especially in the field of social relations, our attitudes are sometimes queerly compounded of quite opposite feelings. Conflicts are not always between the superego and the id, as Freud suggests, but may take place on either level. We are often "torn between conflicting motives," both of which are of a conscientious or superego origin. Intellectual ambivalence—seeing both sides of questions, weighing pros and cons—is one of the most common mental states, and there is no reason why similar complexities should not be equally common in the emotional field.

Another keen psychoanalytic observation concerns the transference that is so frequently observed in the analyst-subject relationship. The analyst may be substituted in the patient's mind for various influences that have been paramount in his experience. Equally common is the attempt to transfer to the therapeutist the burden of responsibility for the problem in hand. For these and other new formulations of psychological facts, though we may hesitate to grant them the status of discoveries, the clinical psychologist is duly thankful.

Stripped of some of its fantastic assumptions and weird analogies, its hasty generalizations, its oversimplification on the one hand and its sometimes needless elaboration of the obvious on the other, psychoanalysis still has a marked contribution to make to the understanding of the dynamics of human behavior. We venture the prediction that though much of its superstructure may fall, most of its foundations will remain. It is at least responsible for directing scientific attention anew to all the problems of mental adjustment.

Rejected Psychoanalytic Theories. Let us now turn to the other side of the picture and attempt to list what

seem to us to be the objectionable parts of psychoanalytic theory. Some of these have been referred to previously.

(1) *Specific Memories of the Infantile Period.* Referring specific memories to periods in individual history before there is sufficient organization of the neural mechanism to serve as mnemonic apparatus is particularly unjustified and objectionable. This would entail ascribing to the unconscious a neural mechanism of its own, and one not governed by the ordinary laws of physical development. If prenatal memories are possible, then we might as well push the matter still further and ascribe mental organization to the sperm and the ovum. Similarly, the "collective unconscious" of Jung has no known physical vehicle.

(2) *Infantile Sexuality.* Infantile sexuality is another firmly held Freudian theory resting on an extremely inadequate theory. Related to this assumption is the idea that the satisfaction the child receives in suckling is sexual in nature. An equally gratuitous assumption is that the relief of excretory tension is also erotic. On these supposedly sexual manifestations rests a whole superstructure of theories of oral-erotic and anal-erotic stages in development through which we are supposed to pass. According to this theory some individuals cease to develop and remain at these infantile stages of sexuality. Because the lips are at a later date an erogenous zone, and in some individuals the anus also has this character, these facts are adduced as proof that oral-erotic and anal-erotic stages are universal features of sex history. It should be remembered that in some peoples, such as the Maoris, the lips play no part in amatory expression, since they do not kiss but rub noses as a sign of affection.

The way in which plausible analogies are misleading is well illustrated by an example from Healy.[5] His description of what he regards as a character fixated at an oral-erotic level of development may be summarized thus:

Henry Elton came from a family where "as the only child he was undoubtedly very considerably indulged." His early history showed no particular problems. He was a well-nourished, happy child with no peculiar habits, but since the birth of a brother when he was six or seven years of age he has been an arrant thief. In connection with his thieving propensities he showed a great fondness for candy, chewing gum, cigarettes, and all kinds of childish gratifications. Since these pleasures seemed to center largely about eating, this shows almost complete prolongation of the "oral character," or sucking phase, into adult life, Henry being "a little pouty and babyish in his demands for pleasures of an oral type." This oral satisfaction was further identified with "an immense pleasure in receiving and taking, a great interest in eatables and sucking, a carefree indifference, and an expectation that anybody, namely the mother representative, will take care of him."

In other words, Henry was a "sucker" and a parasite on society. It should be observed that the diagnostic description of the case seems to rest entirely on a correspondence between fondness for smoking, eating candy, and chewing gum which has persisted into adult life with the satisfaction of taking the breast in infancy, plus further analogy between dependence on the mother for support and the thieving habit of taking from society. With the exercise of a very little ingenuity the psychoanalytic explanation could be very well extended. For example, whistling is, as regards the function of the lips, the op-

[5] Healy, William, *Personality in Formation and Action,* W. W. Norton & Company, Inc., New York, 1938, pp. 88-91.

posite of sucking, so that if whistling on Sunday were to be made a crime, as it once was, then the confirmed whistler would be a criminal who had symbolically rejected the mother, that is, was antisocial.

After all, there is no more need to dub Henry oral-erotic than to call him the intestinal or digestive type. Eating, drinking, and smoking are extremely inadequately described as oral satisfactions. The mouth happens to be the receiving end of the digestive tube, and to regard hunger as an oral satisfaction is to substitute the part for the whole. Similarly, at the other end of the gut is the anus, and this has encouraged psychoanalysts to build up an ingenious but futile explanation of parsimony in terms of the "anal satisfaction" of retaining faeces. This is as logical as to assume that the muzzle of the gun shoots the bullets. The reasoning in Henry's case seems to be that since all suckling is receiving, then all receiving is suckling. We must listen with the utmost respect to Healy on any matter concerning delinquency but may refuse to follow him into the mazes of psychoanalytic explanations.

(3) *Overemphasis of Sex Factor.* Though recognizing that sex has been in the past underestimated or glossed over as a dynamic force, the psychologist would not agree that it is of such overwhelming importance as the Freudians think it to be. According to them, it is repression that gives it its explosive force. "If there *were* anything more repressed than sex, *it* would be the cause of trouble in human adjustment" is the statement quoted by Menninger,[6] an exponent of this theory. But as a matter of fact, the repression-explosion analogy is in some respects

[6] Menninger, Karl A., "Men, Women, and Hate," *The Atlantic Monthly,* February, 1939, p. 158.

a faulty one. Indulgence of an activity may strengthen its dynamic force much more than repression, as witness the many examples of habits such as alcoholism. Psychoanalysis is full of such plausible analogies which will not stand the test of close examination.

(4) *Symbolism in Dreams.* Symbolism as it is employed by psychoanalysts in the interpretation of dreams is often in the nature of a callous affront to scientific method. To say that everything straight or erect is a symbol for the male organ, everything curved or hollow for the female genitalia, and everything regular or rhythmic in occurrence for sexual intercourse means in effect that the only bounds to such interpretations are those that limit human ingenuity itself. Imbued with this spirit we may see not good, but sex, in everything. Even when the symbolism apparently contradicts the wish-fulfillment idea, this situation is no problem to the analyst. Armed with such theories as those of inversion, or displacement from below upwards, and the like, he can fit everything, no matter how polymorphous or perverse, into his interpretative framework. The dreamwork of the subject is in many instances no more extraordinary than the dreamwork of the analyst. On the principle that even a dozen swallows do not make a summer, the fact that certain things have been found to serve as sexual symbols for some psychoneurotics does not give them this meaning generally. Symbolism is extremely individual in its reference.

(5) *The Oedipus Complex.* Another nuclear concept of psychoanalysis which is regarded with grave suspicion by the psychologist is the theory of the universality of the Oedipus complex. No one would deny that parent-child fixations are common, but the assumption that the at-

tachment between mother and son or father and daughter is sexual in basis, except in rare instances, has very little evidence in its support. The theory has its genesis in Freud's conception of the primal family headed by the autocratic sire who kept all the females for himself, thus leading to the rebellion of the sons and the slaying of the father. Apart from the fact that ideas cannot be transmitted by heredity, this situation seems to have no anthropological counterpart. The Australians, it is true, have a system of tribal government based upon the absolute dominance of the old men, but at the same time there is a decided interdiction of intercourse between near relatives, with all kinds of safeguards against incestuous relationships. The explanation that this horror of incest is a carry-over from the remorse attendant upon the primeval crime is altogether too tenuous. The Oedipus complex explanation savors too much of the racial or collective unconscious to merit serious attention.

(6) *Sublimation and Levels of Functioning.* Contrary to Jastrow, who not only criticizes but appreciates the psychoanalytic contribution, there is little reason for accepting sublimation as an actually operating mechanism. Jastrow says:

> Sublimation is the directing of a specific urge, which may have an undesirable or limited outlet, to a more desirable, and higher-grade expression; sublimation is involved in all redirections of the urges by which the upper-level, refined, socially elaborate, and acceptable products of the psyche have emerged. An important phase of sublimation is socialization, the complete adjustment of behavior to others, in all sorts and conditions of relations, and with consideration for others.[7]

[7] Jastrow, Joseph, *The House That Freud Built,* Greenberg Publisher, New York, 1932, p. 151.

I question seriously whether, at least from the individual's point of view, we have any right to speak of higher-level and lower-level functions. In what way are eating and drinking and excreting lower than solving mathematical equations? All this talk about the lower appetites, of conflicts with our fundamental criminal tendencies, seems to me to belong with theories of original sin and the inherent baseness and degradation of man. Surely the values which we ascribe to various bodily and mental activities are entirely social and "moralous." The acceptance of these often arbitrary values is part of the price we pay for social participation.

My own view is the comparatively simple one previously stated, namely, that organic satisfactions together make up one fundamental urge or instinct and that in pursuance of its right to carry on its particular function each organ of the body exerts its claim to a share of whatever energy the organism as a whole possesses. These claims are made by the cortex on its own behalf, just as by any other organic structure. If thinking, planning, and judging are the business of the cortex, then it has a right to carry on that function. If it is charged with the responsibility for adjustment of the organism to social life and if that adjustment implies control of various other physical and mental activities, the cortex must have at its command the necessary physical energy. Properly co-ordinated social structures and relations will constitute the optimal conditions for proper cortical functioning. Here then is no mystery except the fundamental mystery of living. There are no higher or lower functions from the standpoint of the organism as a whole. Thinking has no greater survival value and hence is no higher in the scale than the beating of the heart or intestinal peristalsis. Nor

can one see why the urge to reproduce is to be regarded as one of the most insistent demands of living beings, for we can ourselves go on living without reproducing. From the standpoint of urgency, drinking and eating and excreting and thinking are more important than reproducing, since life cannot maintain itself without these functions, while reproduction is not vital to individual existence.

Then if it be true that there are no higher or lower levels of activity except what are socially decreed, how can we speak of sublimation? It is quite plausible to suppose that physical energy can be diverted from one activity to another, just as water in one channel can be diverted into another—but this is not a matter of level. We cannot make a stream flow at a higher level by simply blocking off the lower channels. Naturally a man who is using up his physical energy, his *élan vital,* in writing poetry has less time and energy for other things. Byron, for example, wrote some excellent poetry, but it was not because he sublimated his so-called lower appetites and urges. It is true of all of us that if our ambitions in one direction are frustrated, we may compensate by turning our energy in other directions; but *diversion* rather than *sublimation* would be a better descriptive term.

This does not mean, of course, that there can be no distinctions made between selfish and unselfish, tender and cruel, impulsive and considerate, social and antisocial actions. The point is that these values *are* social and that tenderness is not sublimated brutality, nor is morality merely repressed immorality. The contrary notion, we repeat, belongs with theology rather than with psychology.

The Interview in Psychological Analysis. The chief distinction that can be drawn between what we have

called psychoanalysis and psychological analysis lies in the nature of the interview. The orthodox psychoanalytic procedure, if it is to avoid the pitfall of constant suggestion, must perforce allow the patient to develop the story of his experience in his own way. Even if questions are necessary to bring the narrator back to the paths of relevancy, they must be very carefully phrased or they will reveal to the subject what the analyst thinks is important. Thus the tempo of the narrative may be exceedingly slow, the analysis extending over many months and even years. Obviously, the exigencies of psychological practice as we have outlined them will not permit of such a leisurely unfolding of a life history that runs a seemingly interminable course, constantly intermingling the relevant and the irrelevant.[8] On the other hand, in psychological analysis the examiner does not hesitate to follow with questions what seem to be important lines or leads that appear in the subject's story. These questions, by focusing the subject's attention, unavoidably make suggestions as to what the psychologist considers the most relevant trends and thus give a certain direction to the interview. However, they should not be in the nature of leading questions.

A concrete illustration of the results of a psychological analysis may be briefly given:

A man married rather late in life a woman twenty-five years younger than himself. They had four children, the second youngest a boy who was rather poorly nourished, thin, and undersized. As the father grew older a kind of "feminine alliance" brought the girls and the mother close together, while the boy chose his father's company, being greatly stirred by

[8] One of the distinctive features of Rank's practice is that he limits the period of psychoanalysis.

stories of his parent's somewhat adventurous youth. Two choices were before the boy—either to come under feminine domination or to disassociate himself as much as possible from girlish things. The father's stories were undoubtedly a considerable factor in deciding the issue.

Being small for his age, the boy tried to make up for lack of strength by extreme agility. He practiced assiduously all kinds of games, and in spite of his handicaps developed considerable athletic proficiency. The fact that he could hold his own with bigger boys bolstered his self-confidence and aroused more than ever his competitive zeal. This sense of surety of accomplishment carried over into other fields besides athletic. He won a competitive scholarship, which provided for his further education. As a youth he entered debating teams which contained lawyers and other professional men much more experienced than himself. Ingenuity and mental alertness again stood him in good stead and led to further successes and boosts to self-esteem. After he entered the teaching profession, an opening occurred for special work which had a scientific side. He eagerly explored every angle of this work, driven always by his competitive spirit. Success led to opportunities for scientific research, which he entered into with the same zest he had displayed in tennis, football, and other games. Scientific work was, in fact, no more to him than a game, played for the fun of discovery, and enjoyed because the pursuit of reputation was also highly competitive. Thus this individual, without either physical or educational advantages, achieved considerably better than average proficiency in several forms of sport and would be rated a success in his chosen branch of science.

Psychoanalysis in this case was quite unnecessary to establish the cause-and-effect sequence. An ordinary psychological analysis was sufficient to expose the whole series of relevant stimuli that have been responsible for this man's life; but until this analysis was undertaken,

the sequence was not understood and, though constantly in operation, remained unverbalized and unconscious, though not beyond the reach of continued introspection.

Introduction to the Analysis. The analytic process may be explained to the subject in the following terms:

"In ships that carry both cargo and passengers, the supervision of the loading of the vessel is a very serious responsibility. It is one officer's duty to take a model or a plan of the ship and, for every ton of cargo put into the hold, to place a corresponding weight in the model in the appropriate space. If this were not done, the ship might begin its voyage with a list to one side. Some people resemble a ship that is trying to battle circumstances with a very serious list—a very dangerous procedure. The only safe thing to do is to reload. But before we can do this, we must get the whole cargo out onto the wharf and consider it. What we shall do, then, is to look over your experiences and try to determine how important they are. It may be that some things that bulk very large in your imagination are not really so heavy as you think they are. On the other hand, experiences that do not seem to you to be so important may be very weighty indeed. Psychologists believe that some of the heaviest things are to be found most carelessly loaded right at the bottom of the hold, so it will be necessary for us to delve into the dark corners of your childhood and bring up things that have been long forgotten. So I want you to tell me all that has happened to you—the hurts, the dissatisfactions, the fears, the dreams of your childhood, as well as those you can remember in later life. Then when we have cleaned out the hold and weighed the cargo, we will try to put it back evenly, so that you can get back on an even keel. Remember that we are not concerned with

right and wrong. If you can look at things impersonally—and relate them as if they happened to someone else—so much the better. We cannot get rid of awkward cargo by throwing it overboard, for that would be like undoing the past. There are no 'oughts' or 'ought nots' to the psychologist—he is concerned solely with things as they are, and not with things as they should be."

Another useful parallel that may be made is with a game of bridge. The psychologist explains to his subject that before putting a bidding value on his hand a player must first count the cards he has before him. These correspond to the subject's conscious, easily remembered experiences. But he must also reckon on the cards in the dummy hand, which correspond to the subconscious experiences. It is the task of the analyst, like that of a partner in bridge, to uncover the values hidden in the subconscious. When these, too, are known and evaluated and displayed to view, the game of life can be played more correctly.

Once the patient is started in the full tide of self-revelation, there are several points which must be carefully considered. Some people are gratified by having the psychologist note down carefully all that they tell him, but the majority find this note-taking rather disturbing. With practice it is possible to remember the subject matter of interviews well enough to make a reliable record in summarized fashion as soon as the person has left the room.

The phenomenon of transference, which has been recognized by psychoanalysts, is quite common. At first contact the psychologist may represent to the client a person in authority, and as such he may experience emotional response which the individual habitually associates with authority, be it submissive, cringing, conciliatory, or cov-

ertly defiant. By setting up in the patient's mind a clear picture of the objective attitude by means of an introduction such as has been described, the psychologist may disassociate himself from this authoritative stand which the subject is too ready to thrust upon him. By deliberately placing himself outside the emotional circle, the psychologist helps the patient to achieve for himself a more objective viewpoint.

Personal and Social Insecurity Symptoms. Throughout the interview the psychologist must be on the alert to detect symptoms of anxiety or worry, for unless the patient is conscious of mental disquiet of some kind he would hardly have come for analysis. It may be helpful to remember that insecurity of any kind is emotionally disturbing, and this insecurity may be of two kinds, personal and social.

Under the first heading comes the fear of poverty, the haunting dread that the future may change so that food and shelter and ease of living will be reduced and all the buffers that we have so laboriously placed to keep us from contact with the sharp edges of necessity will be worn out or removed. Anxiety about earning a living or holding a position already gained is very common. In some cases this fear has a real basis, as frequently people are placed in jobs that they can hold only with their best or most extreme efforts. Another fear is that of disease or physical defect. Closely allied with this is anxiety regarding failing physical powers in any direction. The tendency is for men to pride themselves on their athletic ability and general virility. Fortunately for our peace of mind, the downhill slope is so gradual that we are not usually faced with any sudden realization of decreasing vigor. Though Nature cannot temper the wind to the

shorn lamb, she takes a very long time to do the shearing, so that there is an opportunity for slow adjustment. In some cases this physical insecurity is very greatly exaggerated, and in adolescence it may actually take the form of a phobia.

With regard to social insecurity, there is no need to enlarge on this topic, as so many of our activities are constantly tempered by reference to social approval.

Evaluating the Facts of the Interview. The psychologist should, of course, be thoroughly aware that the tendency towards concealment will be most evident in relating family experiences. The individual has been taught all his life that details of family life are of an intimate nature and are not to be revealed to the outsider. Convention also imposes an attitude of noncriticism when we discuss our near relatives. The psychologist must learn to read between the lines of the patient's story and detect the symptoms of family disunion, rivalry between siblings, jealousy, and the like.

In this connection it is just as important to note what facts the individual considers worth telling, and the order in which they are told, as it is to evaluate for oneself the facts themselves. For example, hesitancy or abrupt inhibition of the free flow of narration at certain points, as when a mother speaks of the father's relation to a child, is most important. It may give the clue to an overprotective attitude as a compensation for the father's jealousy or nonacceptance of the child. The persistent appearance in the subject's history of defiance of social authority may indicate a terrified or cringing attitude towards the male parent. Rationalizations and the need for self-persuasion are often revealed by such overemphasis, which colors the whole story. All this indicates how loose

a rein the interviewer must keep on his subject, so as to be sure that the narration is natural and unforced.

Effects of Insecurity. The consequences of emotional disturbance through insecurity, whether personal or social, are quite apparent in the subject's attitudes. He may feel cheated or frustrated; he may develop a dissatisfaction with life in general, become irritable or despondent; or he may become revengeful, aggressive, determined to gain recognition by fair means or foul, and thus to make a most emphatic protest against nonentity. In the case of children and young persons, the insecurity may be manifested in extreme shyness, deceit, physical ill-health, showing off to attract attention, overaggressiveness to cover up fright, enuresis, masturbation, and the like. Reference to Chapter III will show that the two most potent emotions—fear and anger—are interrelated and that they arise either through inability to foresee a way of escape or through the blocking of the path of adequate response. Our most earnest efforts are directed towards escape from the threat of either personal or social insecurity.

Happiness and Self-understanding. Happiness, as has been indicated, is security *plus*. All activities which may be originally relevant or necessary, but which can be carried beyond the goal of biological necessity, become joyous; art, music, literature, simply because they are free from environmental pressure, because they are not forced on us by biological necessity, become expressions of security plus. The enjoyment of a poem or a picture or a piece of music is one of the safest things we do, because it is entirely divorced from the struggle of living, which ordinarily sucks our emotions dry.

If self-understanding were general or even common, there would be little need for clinical psychology. The

clearer the psychologist's own thinking about life and its mental mechanism, the more helpful he will be in matters of human perplexity. Much of this book's purpose is to attempt to erect, here and there, a guidepost to clearer thought, to provide analogies and working hypotheses that may make analysis, explanation, and guidance a little easier. We are well aware that the short-term psychological study of an adult such as we have described will seem shallow and inadequate in comparison with psychoanalytic procedures. In justification, however, we can cite the same evidence as the psychoanalysts adduce in proof of the validity of their methods. Over many years of clinical experience, involving a large number of consultations, this approach has *worked,* at least to the extent of earning the grateful acknowledgments of perplexed and harried individuals. These people, it is true, could not be classed as psychoneurotic, but they represent a sample of many to whom, for some reason or another, thought has become confused or life a burden. Psychologists are in the position now to render even greater help than was given by the old-time family doctor, who tendered sound and welcome advice on many matters that were psychological rather than medical.

References for Chapter XVIII and Chapter XIX

Adler, Alfred, *The Neurotic Constitution,* Dodd, Mead & Company, New York, 1917

——, *The Practice and Theory of Individual Psychology,* Harcourt, Brace and Company, Inc., New York, 1924

Allport, Gordon W., *Personality: A Psychological Interpretation,* Henry Holt and Company, Inc., New York, 1937 (See pp. 181-189.)

Bousfield, Paul, *The Elements of Practical Psychoanalysis,* E. P. Dutton & Co., Inc., New York, 1920

Dunlap, Knight, *Mysticism, Freudianism, and Scientific Psychology,* C. V. Mosby Company, St. Louis, 1920

Freud, Sigmund, *General Introduction to Psychoanalysis,* Boni & Liveright, New York, 1920

——, *New Introductory Lectures on Psycho-analysis* (translated by W. J. H. Sprott), W. W. Norton & Company, Inc., New York, 1933

——, *The Psychopathology of Everyday Life,* The Macmillan Company, New York, 1917

Hart, Bernard, "Psychology and Psychiatry," *Mental Hygiene,* April, 1932

Healy, William; Bronner, Augusta F.; and Bowers, Anna M., *The Structure and Meaning of Psychoanalysis,* Alfred A. Knopf, Inc., New York, 1930

Hollingworth, Harry L., *Abnormal Psychology,* Ronald Press Company, New York, 1930

Holt, E. B., *The Freudian Wish and Its Place in Ethics,* Henry Holt and Company, Inc., New York, 1915

Horney, Karen, *The Neurotic Personality of Our Time,* W. W. Norton & Company, Inc., New York, 1937

——, *New Ways in Psychoanalysis,* W. W. Norton & Company, Inc., New York, 1939

Jastrow, Joseph, *The House That Freud Built,* Greenberg Publisher, New York, 1932

Jung, Carl G., *Contributions to Analytical Psychology,* Harcourt, Brace and Company, Inc., New York, 1928

——, *Psychological Types,* Harcourt, Brace and Company, Inc., New York, 1923

Leary, Daniel Bell, *Modern Psychology, Normal and Abnormal,* J. B. Lippincott Company, Philadelphia, 1928

McDougall, William, *Outline of Abnormal Psychology,* Charles Scribner's Sons, New York, 1926

Moss, F. A., and Hunt, T., *Foundations of Abnormal Psychology,* Prentice-Hall, Inc., New York, 1932

Murphy, G., and Jensen, F., *Approaches to Personality,* Coward-McCann, Inc., New York, 1932

Sachs, Bernard, "Bumke's Critique of Psychoanalysis," *Mental Hygiene,* April, 1932

Shaffer, L. F., *The Psychology of Adjustment,* Houghton Mifflin Company, Boston, 1936 (See Chapter XIV, pp. 393-431.)

Taylor, W. S., "A Critique of Sublimation in Males: A Study of Forty Superior Single Men," *Genetic Psychology Monographs,* Vol. 13, No. 1, 1933

Woodworth, Robert S., *Contemporary Schools of Psychology,* Ronald Press Company, New York, 1931

CHAPTER XX

Vocational Guidance

Applications of Psychology to Vocational Guidance. One of the obvious applications of clinical psychology would seem to be in the field of vocational counseling. It is a matter of common observation that certain qualities or abilities are important for success in various vocations, and that if these qualities could be listed and measured, the task of guiding individuals into occupations in which they will be happy and competent would be much easier. Burt, Earle, and Myers in England and Thorndike, Bingham, Viteles, and Toops in America—to mention just a few outstanding investigators—have done so much that no adequate description of their work can be given in a book of this scope. The most that can be attempted is to discuss rather briefly some of the most important underlying principles and conclusions in vocational counseling and then to present in greater detail a single experimental study, in the hope that this will illustrate the difficulties of a scientific approach to the problem.

Claims for Vocational Guidance. As was the case with other applications of psychology to everyday human problems, the tendency has been towards too enthusiastic claims and expectations. With added experience has come the recognition of the fact that vocational guidance is a most complex matter, beset with many difficulties, and that the psychological approach has not been so fruitful of results as many people have believed.

One conclusion seems to be justified by a survey of the evidence, namely, that the more intellectual or highly technical or responsible the profession or occupation, the more directly the available tests correlate with success in it. Carney, for example, while pointing out that a measure of general intelligence correlates insignificantly with ability to do routine work, states that "considerable correlation appeared between general intelligence and success in positions of greater responsibility." [1]

Occupational and Mental Levels. The army testing, it is true, showed that occupations could be arranged in various hierarchies according to the average intelligence of those engaged in them, having such vocations as laborer and barber at the bottom of the range and doctor and engineer at the top. On the other hand, it was found that there was tremendous overlapping, so that even laborers as a group contained some individuals with an A rating in the tests. The middle 50 per cent of teachers, according to Fryer's analysis,[2] had a range of 97 to 148 points in Army Test score, as against 51 to 97 for the middle 50 per cent of men working as automobile assemblers. Yet the average score of teachers was 122 and that of the assemblers was 66. Even though there is such a wide spread between these average scores, the assumption may be made that 25 per cent of the men in the lower-level occupation were distinctly brighter than the lowest 25 per cent of the teachers. In other words, under vocational guidance 25 per cent of men engaged in these two

[1] Carney, C. S., *Some Experiments with Mental Tests as an Aid in the Selection and Placement of Clerical Workers in a Large Factory,* Bulletin of the Extension Division, Indiana University, Bloomington, Vol. C, No. 1.

[2] Fryer, D., "Occupational Intelligence Standards," *School and Society,* Vol. 16, pp. 273 ff.

occupations could be interchanged without special disadvantage to themselves or their professions. It would be useless for the vocational counselor, even if he had the opportunity, to tell the brightest of the automobile assemblers that they should be teachers or the dullest of the teachers that they should be automobile assemblers.

As regards the learned professions, the level of general intelligence is quite important, but in this case the best guide is not the test result but the student's record in his preparatory courses. It may be assumed that a person who is intelligent enough to qualify for a profession will be intelligent enough to practice it. How well he will do after qualifying will be dependent on many factors other than level of intelligence.

The chief value in applying tests to prospective entrants to highly technical or learned professions would seem to lie in the elimination of those who are not sufficiently equipped to be able to complete the training courses. Darsie has suggested that college requires a Binet I.Q. of 115 and over, while high-school graduation needs an I.Q. within a range of 100 to 114. Burt's mental age standards for educational and occupational success are considerably higher. For example, Darsie gives I.Q. limits for the professions as 120 and over, while Burt states them as above 150. Similarly the former suggests 90 I.Q. as the lower limit for clerical and skilled work, while Burt places it at 115 I.Q.[3] The author's experience would indicate standards a little higher than Darsie's but considerably lower than Burt's.

[3] Darsie, M. L., "A Method of Reporting the Significance of Intelligence Tests to Parents and Teachers," and Burt, Cyril, "The Principles of Vocational Guidance," both quoted by R. Pintner in *Intelligence Testing: Methods and Results,* Henry Holt and Company, Inc., New York, 1931.

Selection of College Students. For the purpose of eliminating the unfit, the Thurstone test of college aptitude, though its correlation with scholastic success is probably only about .5, is in common experience most usable. The total time required for application is a little over an hour. Because the results of the test are often interpreted by people other than psychologists, Thurstone has found it advisable to utter a warning with regard to its validity. "While the scores do show roughly the mental alertness of the student," he says, "they should not be thought of as measuring mentality with any high degree of accuracy. The scores are roughly indicative of the level of mental alertness of the student, but they should not be taken so seriously as to exclude other evidences of intelligence and talent in individual cases." [4] The same warning, it should be said, applies to all tests of general intelligence. Even with this reservation in mind, the usefulness of the general intelligence test is undoubted when elimination of unlikely aspirants is the purpose.

Thorndike's Study of Educational Prediction. Thorndike has shown that if the counselor knows the grade reached or the general intelligence level of a subject at age 15 or 16, he can use that, in connection with the age to which the family plans to keep the boy or girl in school, to "predict the grade which the individual will reach at any age with substantial accuracy." If with ordinary educational opportunities he has not reached Grade VIII by age 14½, he cannot, even with unlimited schooling, expect to "graduate from a reputable college, law school, medical school, theological school, professional school for teachers, collegiate school of business or jour-

[4] Thurstone, L. L., *Primary Mental Abilities*, Psychometric Monographs, No. 1, University of Chicago Press, 1938.

nalism, engineering school, . . . or the like." [5] The expected limit that must be reached, according to Thorndike, is Grade 14, equivalent to sophomore standing in college.

As promotion is often by grade and not by achievement, Thorndike's rule of combining the number of years of continuous schooling after age 14, 15, or 16 with the grade reached at that age in a regression equation cannot always be relied upon as a measure of educability, and we must use the mental age as the basis of calculation. If the sum of the mental age and the residual years in school is less than 19, the result would, we believe, be indicative of similar unfitness for occupations of professional rank. As regards educational prediction, the school achievement approach appears most promising, since the combined result of a test of arithmetic and reading "predicts future educational success better than the progress record of approximately eight years in school, and nearly as well as the opinions of past teachers concerning conduct or ability." [6]

Prediction of Vocational Success. When, however, we consider prediction of success in mechanical work, the situation is much less promising. Thorndike found that it was quite impossible for him and his co-workers to predict at age 14 how well a person would do in mechanical work six or eight years later, or how happy he would be in his job. Success at clerical work within the same period may be predicted more accurately but still far from adequately. If, however, the comparison of vocational test results and industrial success of the individual were made at a later date, a closer relation might be found to exist,

[5] Thorndike, Edward L., and Others, *Prediction of Vocational Success*, Commonwealth Fund, New York, 1934, p. 113.

[6] Thorndike, Edward L., and Others, *loc. cit.*, p. 48.

but the fact that the correlations with earnings and "liking for job" are as low as .10 and .08 respectively is very discouraging. Strangely enough, Thorndike found that the ability to manipulate objects rather than words or numbers was a better indicator of success at clerical work than it was of mechanical ability.

His summary would seem to be rather pessimistic as regards vocational guidance at about age 14, but it is not conclusive regarding guidance at later ages when the individual's interests (and possibly abilities) are more developed. He says, "Our findings not only contradict the expectations of many vocational counselors; they also seem to contradict the actual findings of many investigators in industrial psychology who have obtained substantial correlations between scores in various tests and success at various forms of mechanical work." However, Thorndike points out that these other comparisons were made at a later age, under different conditions, and with criteria different from those used in his study.

The writer's own experience would indicate that any vocational counseling given before the individual's interests have crystallized or matured is not of much value, and by the time the interests are decided, guidance, except for the purposes of eliminating the unfit, is less necessary.

Interests and Vocational Placement. The factor of interest has received most weight in the studies by Strong. In arranging his Vocational Interest Blank, he has proceeded by the method of listing the interests of men and women in different professions, utilizing such categories as personal preferences regarding occupations, amusements, school studies, recreational activities, and characteristics of people. The subject also indicates his choice

of industrial activities, factors governing satisfaction in a job, preferred positions in a society or club, choice of well-known individuals in various professions, and likes and dislikes for contrasted activities, for example, reporting verbally or in writing. Strong's scale for women is somewhat similar.

Strong has compared the response of a large number of successful men in various professions and on the basis of his results is able to tell how nearly the subject's interests agree with those of architects, doctors, lawyers, Y.M.C.A. secretaries, farmers, and the like. The principle is that men in these professions tend to have their own characteristic patterns of response and that individuals will be more at home in those industrial pursuits in which their likes and dislikes tend to coincide with those of other men in the same occupational environment.

Elimination and Selection. The chief objection to Strong's method would seem to lie in the fact that harmony of interest with a somewhat conventionalized pattern *is* the criterion. The Strong Blank probably indicates that as far as interests go, the individual will make an ordinarily good doctor or lawyer, and so on, but it does not help us to say whether he will make an exceptional member of this profession. It may well be that some persons who, because of their unconventionalized interests, would be advised against entering a given profession might actually turn out to be outstanding as regards future success. That this does happen is shown by the fact that a small percentage of men who rank well in their chosen profession earn C ratings in the Vocational Interest Blank. Among life insurance salesmen—an occupation whose low correlations with interests of men in a large variety of other occupations would seem to prove that it

has a distinct interest pattern—6 per cent of the C men were classed as successful. The criterion of earnings could be used as the index of success in this occupation, but in the higher professions such a criterion might well be inapplicable.

The results would seem to show that while interest is a determining factor in success in the great majority of cases, it is not by any means an infallible index. C ratings usually can be relied upon to indicate eliminations, but the value of an A rating as against a B rating is by no means clearly established. Hence the vocational counselor must be very cautious in proffering his advice. If an individual has exceptional ability and thinks well of the profession he plans to enter, he may be very successful, no matter what his other preferences are. One suspects that there are many who regard their profession merely as a door to success and whose versatility is such that they would reach the top no matter what route they took.[7]

But, as indicated at the beginning of this chapter, vocational guidance is most successful where perhaps it is needed least—in the most highly qualified professions. For occupations at a lower level it is a different story. If they involve highly specialized skills, the general intelligence test is of less value than trade tests. These latter tests usually attempt to measure the ability of the individual to master a sample problem of the kind he will meet with in the trade, and they may be supplemented by tests aimed at certain abilities of a more general kind that are supposed to be basic for proficiency. This task has been approached by psychologists with only partial

[7] See Strong, Edward K., "Interest and Sales Ability," *The Personnel Journal,* December, 1934.

success. As regards the first procedure, it is difficult to reproduce in the laboratory the conditions of the shop. It is very hard indeed to pick test activities in which the previous experience of the worker is not a factor and which can be considered typical of the job. With regard to the second objective, though some specialized tests correlate fairly well with proficiency, the correlation is never so high as to warrant any sure or safe prediction of industrial success based on the test results.

Significance of Mental Tests in Vocational Prediction. As an example, we may quote a study made in England by the National Institute of Industrial Psychology with the object of discovering the significance of certain performance tests for predicting efficiency in three occupations. The efficiency was estimated by the instructors halfway through the course (Efficiency I, Table XX), and at the end of the course by means of examination (Efficiency II, Table XX). The results indicate that the tests might be usable as a battery but hardly as single measures of trade proficiency.

TABLE XX

CORRELATION OF TESTS WITH TRADE PROFICIENCY [8]

Test	*Trade*	*Correlations with Trade Proficiency*	
		Efficiency I	Efficiency II
Porteus Maze	Fitters	.44	.61
Cube Construction	Fitters	.42	.46
Substitution	Electricians	.38	.50
Dearborn Form Board	Smiths	.62	.56
Picture Completion	Smiths	.48	.32

[8] Earle, F. M., and Milner, M., *The Use of Performance Tests of Intelligence in Vocational Guidance,* Industrial Fatigue Research Board Report, No. 53, London, 1929.

Predicting Nursing Efficiency. The value of vocational guidance is relative in many cases to the length of the training period. Obviously, if an occupation requires a long preparation, it is economical of both money and effort to exclude unsuitable entrants. The nursing profession is a case in point, and this occupation has been chosen to illustrate the methods of predicting vocational success. It requires a long training period (usually four years), which involves both academic and practical work. The things which the qualified nurse is expected to do are not extremely skilled, yet because the health and even the lives of human beings are at stake, the work is most responsible.

The student nurse's ability to carry the academic part of her preparation can be estimated rather well on the basis of the high-school record plus a general intelligence test. The difficulty lies in forecasting practical nursing efficiency. Obviously, the ability to prepare a meal, or to make a bed, or to make a patient comfortable, or to take and chart temperatures is hardly a sufficient index of good nursing ability. The difficulty seems to lie in the fact that it takes a particular kind of a person to make an efficient nurse. She must be patient but not unassertive; she must have a certain amount of initiative, but not too much; she must be intelligent but not of too high academic caliber, otherwise she would make a better doctor; she must be sympathetic but not sentimentally soft; she must be thorough, painstaking, and conscientious, without being so engrossed in the routine of duties as to lose her alertness in detecting new conditions; she must accept direction without being too submissive; she must be calm and collected in emergency. In short, the nurse should be made to order, and few of them are. How can

we find a test or a scale which will predict with reasonable accuracy nursing efficiency on the practical side?

Because so many candidates for nursing drop out at various stages of their preparation, there is great economic loss in the large number of hospitals that provide training. As one student of the subject says, "Practically all leaders in nursing education agree that a predictive measure of personality and attitude would be of inestimable value in the selection of students." Brief reference may be made to several attempts of this nature.

Typical Studies. Rhinehart [9] used a number of tests and correlated their results with grades earned by nursing students in their practical work. She found that these grades did not differ significantly for groups of students rated superior, normal, and inferior by the Binet. Quite evidently there was very little correlation between general intelligence and nursing aptitude.

By other investigators, such as Faber,[10] the suggestion has been made that social intelligence could be expected to have a closer relation, but Rhinehart's application of the Moss Social Intelligence Scale showed that this was not the case; the students falling in the lowest quartile by this test had actually higher ratings in practical nursing than those in the upper quartile. Similarly, a correlation of only .065 was found with the Moss Nursing Aptitude score. The American Council of Education Test, while correlating better with classroom grades, was also valueless for predicting practical efficiency. The Bernreuter Personality Inventory was found to be of some

[9] Rhinehart, Jessie B., "An Attempt to Predict the Success of Student Nurses by Use of a Battery of Tests," *Journal of Applied Psychology,* Vol. XVII, p. 277.

[10] Faber, Marion S., "Mental Tests and Measurements," *American Journal of Nursing,* Vol. XXVIII, 1928.

service in picking out students with too high a neurotic tendency or too low a dominance-submission index; persons with these characteristics did not do well in their hospital training.

Rhinehart's study, while producing results mainly of negative value, sets forth the traits which seem to be of importance in the equipment of a nurse: "A test measuring accurately attention to detail, conscientiousness, respect for authority, attitude to criticism, professional attitude, reliability, tact, and all those major traits essential to success in practical work would be invaluable in helping solve the problem of selection of students."

A study by Habbe [11] confirmed some of Rhinehart's results. He obtained a correlation of nursing efficiency of .06 with the Binet and one of .4 with a score allotted by means of an interview of from 30 to 60 minutes' duration with a psychologist. Unfortunately, this score would be almost entirely subjective.

A larger study was that by Clark and South,[12] who examined 408 student nurses by the Ohio State University Scale. As was the case in previous investigations, the relation of nursing success to intelligence grade was very small. The authors, on the basis of their experience, were led to ask, "Are there other factors besides high intelligence test scores that are necessary for success in nursing, and if so what are they?"

Mental Tests and Practical Trainability of Nurses. Like previous investigators, the author began by using general intelligence tests of various kinds, with equally

[11] Habbe, Stephen, "The Selection of Student Nurses," *Journal of Applied Psychology,* Vol. XVII, p. 564.

[12] Clark, G. Y., and South, E. B., "Some Uses of Psychological Tests in the School of Nursing," *American Journal of Nursing,* Vol. XXIX, 1929.

negligible results. The scores of student nurses by the Binet or the Otis Self-Administering Test were of very little, if any, significance in relation to ratings given by the superintendent of nurses in a hospital such as Queen's in Honolulu.

Because the Porteus Maze has been shown to have a fairly close relation to social adjustment and to industrial efficiency of various kinds, it also was applied. The correlation of .25 was not high enough to justify any dependence on its single verdict but was possibly sufficient to justify its inclusion in a battery of tests.

A test of quickness and mental alertness—the Porteus Form and Assembling Test, previously described—was also used, in the hope that these abilities would make up part of the mental equipment of the good nurse, with the result that a correlation of .33 was found. Again, this coefficient was too low to admit of much reliance on the test. The Bernreuter Inventory gave results of even less value for prognosis, the criterion being the agreement between unfavorable ratings on the Inventory and ability to graduate after training.

Nurses' Social Rating Scale. On the assumption that it took a particular kind of person to make a good nurse and that the personal traits required were not measurable in any ordinary test or combination of tests, it was determined to devise a scale which would attempt to reflect conscientiousness, professional attitudes, attention to work, and ability to adapt on the one hand to superiors and on the other hand to patients. The scale would naturally be a self-rating blank or questionnaire.

Such a self-rating scale would be open to the same objections that can be advanced against similar vocational guidance devices. The tendency is natural for the student

to rate herself well in good or favorable traits unless she is of the rather exceptional, self-derogatory type. In either case, having too much or too little conscience and self-insight would be detrimental to the value of the ratings. Various devices, however, may be used to offset dishonest or overconscientious tendencies, as well as lack of ability for self-evaluation.

In the first place, the "critical" questions, those which are weighted heaviest in the scoring, are mixed with a number that are not scored at all. In the second place, the scale is one of actual social reactions to specific situations—a much better method than that of asking the student whether she is conscientious, hard-working, punctual, and the like. In the third place—and this is the most important provision—the situations are so phrased that on the face of them there are few, if any, self-damaging statements called for. In other words, the scale gives due recognition to the fact that we are all given to rationalizing our behavior, and are more likely to admit a line of conduct if the rationalization or the excuse is provided.

For example, one situation deals with methodical habits, and the three descriptions of characteristic behavior from which the subject picks the one that best describes her are as follows:

A—Is moderately systematic.
B—Would not let a little untidiness or lack of system worry her unduly.
C—Is systematic and orderly to an extreme.

Obviously, the unsystematic, disorderly person is more likely to class herself as B in the above terms than if she were asked to describe herself as "untidy." Also, it is

probable that only the person to whom orderliness is very important will describe herself as C. The individual who is trying to represent herself in the best possible light, regardless of the facts, will probably choose A, a rating which gets no score, while B obtains a minus score and C a positive one. The fact that extenuating circumstances are included in so many reactions and that there are no responses that are obviously unreasonable are features that make for honest self-rating and, as far as is known, constitute a rather unusual principle in arranging such questionnaires. The chief objection to this phrasing of the reactions is that it blurs the picture somewhat; but after all, a blurred or indistinct picture is far better than one that is purely imaginative or false.

The net result of the foregoing principles is that it would be extremely difficult for anyone to mark the scale so as to get a good score. The way in which the scale is scored provides another safeguard, so effective in fact that the psychologist himself, without reference to the key, would be quite unable to mark the scale so as to get a maximum rating. This scoring principle is based on the manner in which good student nurses in comparison to inferior students mark themselves, the results in certain items of the scale being quite different from *a priori* expectations.

The procedure adopted was to arrange the scoring by comparing the responses of all nursing students rated A and B in three hospitals with those of students rated C or lower. The three hospitals were Harborview, Washington; University Hospital, Minnesota; and Queen's Hospital, Honolulu. The percentages of student nurses marking themselves A, B, or C were calculated in each of the 36 items of the scale (Forms A and B), and these

percentages were then compared for the group of good nurses as against the inferior nurses. Scores were then allotted to items, a plus weighting for those in which the proportion of good nurses was greater, and minus for the inferior students' preferences. Where there was no significant difference between the response of the two groups, no scoring was allotted.

Characteristics of Good Student Nurses. The composite picture that good student nurses draw of themselves is as follows:

1. She is of the somewhat independent type, at least to the extent of not wishing to please people she does not care about.
2. She is somewhat self-assertive, so that she would correct an unfair statement even if it led to an argument.
3. She is not too submissive, as she cannot bring herself to blind obedience and likes to do her own thinking.
4. She believes in standing up for her rights against spiteful or unfair criticism.
5. She shows at her best in company and takes the initiative at parties.
6. She usually gets her own way with people.
7. She likes to keep her mind on her work at all times.
8. She works well whether observed or unobserved.
9. She is systematic and orderly to an extreme.
10. She likes to finish a job to the last detail before beginning another.
11. She does not make excuses for herself under any circumstances.
12. She likes to direct other people.
13. She would not break hospital rules under any circumstances. (But see No. 3.)
14. She dislikes advice and prefers to find out her own mistakes.

From these characteristics it is evident that the good nurse believes herself to be a methodical, self-assertive, thorough, direct, self-assured, well-disciplined kind of person.

Characteristics of Inferior Student Nurses. On the other hand, the inferior student nurse characterizes herself thus:

1. She will agree with any statement rather than get into an argument.
2. She will obey orders without question even if she thinks they are wrong.
3. She refuses to be tied to her job—has a great variety of interests.
4. She is overconscientious and worries a great deal over details of what she undertakes.
5. She is interested in other people's problems but thinks sometimes of her own.
6. In company she is shy and retiring, and ill at ease with strangers.
7. She prefers to allow people to have their own way rather than impose her will on others.
8. She dislikes to be hurried.
9. She does not show at her best under critical observation.
10. She is much disturbed by any criticism.
11. She is moderately systematic.
12. She is oversympathetic; gives other people more time and attention than she should; is somewhat sentimental.
13. She is not very thorough, being interested in the important parts of a job but disliking the petty details.
14. She takes life easy—doesn't worry. (But see No. 4.)
15. She never insists on her own way if there is opposition.
16. She does not wish to interfere with people's actions even if they are wrong or unwise.
17. She is inclined to be overcritical.

Under the system of scoring adopted, some of the ratings may seem contradictory, but these may rightly represent extremes, both positive and negative, into which inferior nurses fall. The picture we get of the inferior student nurse is that of an easy-going, overconscientious or careless, nonaggressive, self-conscious, oversympathetic, rather haphazard, yielding type. These conclusions are, however, based on results from less than 200 cases, and possibly a wider range of testing would modify them somewhat.

Correlation with Practical Nursing Efficiency. The correlations between the Nurses' Social Ratings and supervisors' ratings in practical work are given in Table XXI.

TABLE XXI

CORRELATIONS OF NURSES' SCALE WITH PRACTICAL TRAINING

Group	*Test*	*Number*	*Correlation with Nursing Efficiency*	P.E.*r*
1. Queen's Hospital Student Nurses—Honolulu, 1935...	Porteus Maze	36	.25	.104
Queen's Hospital Student Nurses—Honolulu, 1935...	Porteus Form and Assembling	29	.33	.111
Queen's Hospital Student Nurses—Honolulu, 1935...	Nurses' Social Rating Scale	29	.57	.085
2. Harborview Hospital, Washington	Nurses' Social Rating Scale	33	.52	.090
3. University of Minnesota Hospital...	Nurses' Social Rating Scale	54	.62	.059
4. Queen's Hospital, 1937-38 Classes...	Nurses' Social Rating Scale	42	.44	.088
5. Three First Groups Combined	Nurses' Social Rating Scale	117	.47	.049

NOTE. Table XXI includes two groups of Honolulu nurses (groups 1 and 4). The first were rated by the superintendent of

nurses, Miss Rieckman, in 1935. The second group ratings on efficiency were supplied by Miss Larsen and represent composite scores given by all ward supervisors on nursing efficiency. Classroom grades were not included. In the case of the two mainland groups, the correlations are with ratings given by the superintendent of nurses in each hospital. The rank order method of correlation was employed throughout.

From this table it will be seen that while the correlations between the nurses' social ratings score and nursing efficiency are not high, they are considerably more significant than those obtained with any single test or, so far as is known, with any combination of two tests. In this connection it should be remembered that the subjects of this study were already students in training and the initial elimination had weeded out the most unsuitable. Had the unsatisfactory individuals been allowed to enter, the correlation might have been considerably higher.

The question now arises: How can this scale be included in a scheme for the selection of nurses?

Elimination Scores. It is evident that no test or scale alone can be relied upon by itself for elimination purposes. The procedure we recommend is to give letter ratings on each of the following:

1. High-School Record—A, B, C, or D, according to grades obtained in preparatory courses in science subjects plus general level.
2. Intelligence Test Results—If the Thurstone test of college aptitude (American Council of Education) has been given, the following letter grades are recommended:

165 and above—A
135 to 164 —B
105 to 134 —C
Below 105 —D

3. Performance Test Results:

(*a*) Maze Score

Above 14 years	—A
Between 13 and 14 years	—B
Between 11 and 12½ years	—C
Below 11 years	—D

(*b*) Form and Assembling Score

Below 90 seconds	—A
90 to 109 seconds	—B
110 to 129 seconds	—C
130 seconds and above	—D

4. Interview—Letter grades of A, B, C, and D may be allotted on the basis of a personal interview. Experience in domestic or house duties or participation in sports and athletics is good evidence of physical energy and stamina, while leadership in high-school activities is usually a good sign. A brief discussion of hobbies and recreations, of the reasons for entering nursing, and of the family resources will give the examiner an opportunity to note in addition to the replies his impressions regarding appearance, address, and other personal traits, and these should enter into the allotment of letter ratings for the interview.[13]

5. Nurses' Social Rating Scale—The following grades are recommended:

+5 and above	—A
1 to 4 score	—B
0 to —5 score	—C
—6 score and below	—D

[13] The qualifications for nursing are thus set out in Guidance Leaflet No. 15 of the series issued by the United States Department of the Interior: "Good general health is, of course, the first qualification of a student nurse. The nature of the work requires that the nurse be on her feet the greater part of the time. She must have good eyesight, good hearing, good physique, and a pleasant voice. The duties demand that she be faithful, trustworthy, reliable, and willing to serve. She should be at least 18 years of age but not over 35."

Divisions 1 and 2 of the list above refer to theoretical work. A single D in either of these divisions should mean elimination, while two C's indicate that the individual will have considerable difficulty with the classwork.

Divisions 3, 4, and 5 refer to practical efficiency. Two D's here disqualify the candidate, while a rating of three C's should also be considered grounds for exclusion.

Value of Self-rating Scales in Vocational Guidance. The detailed description of this attempt to work out a scheme for guidance in one occupation should be sufficient to illustrate for the student of clinical psychology how complex and difficult the matter is. It should bring the realization that at least in occupations such as nursing, in which responsibility for the care or safety of others is involved, a particular temperament or type of personality is much more important than the level of intelligence. If we wish to discover this type of personality, the approach to our problem must be direct and specific. The best attack would seem to be through self-rating scales arranged specially with an eye to the requirements of the occupation in question. If such scales are employed, they must be seemingly innocuous, and the critical points must be so well concealed by the phrasing of the items that the subject cannot represent herself so as to obtain a fictitiously high score.

The Nurses' Social Rating Scale as described herein is a merely tentative effort and could, without doubt, be greatly improved. The scale itself is given in the following appendix.

There are two forms of the scale, A and B, but these are of uneven value, B being merely an extension of A. Both must be applied. As the scale is now in use, the scoring of responses is not given.

Appendix to Chapter XX

Nurses' Social Rating Scale

Nurses' Social Reaction—Form A

In each of the divisions of this form the characteristic actions of three persons (A, B, C) are described. Put a check mark (√) in front of the person you are most like.

This form is designed to help us understand what kind of person you are. It is not an intelligence test, and there are no *right* or *wrong* answers. All the actions described are perfectly normal, and there is no best answer. People who are equally efficient and intelligent differ considerably in their responses.

Mark the form fairly quickly, giving your first reactions. Remember that from this form all abnormal or unreasonable reactions have been excluded and that there is no way by which a person can so represent herself as to get a high score. The only concern, therefore, is to provide the truest picture of your usual reactions.

1

( ) A Prefers to get to an appointment considerably ahead of time. Would rather wait half an hour than be five minutes late.

( ) B Likes to be on time, but is not usually ahead of time.

( ) C Does not mind being a little late if she has some other important things to attend to.

2

( ) A Does not see why she should exert herself particularly or go out of her way to please people she does not care about.

( ) B Is overanxious to please everybody.

( ) C Likes people to be happy and usually tries to please them.

3

( ) A Would correct a statement if she does not believe it, provided she knows the person will not resent the correction.

( ) B Would not let an unfair or incorrect statement pass without an attempt to correct it, even though it led to an argument.

( ) C Would agree with any statement whether correct or not rather than get into an argument.

4

( ) A Will obey orders exactly and without any question, even if she thinks they are wrong.

( ) B Obeys orders generally, but would use her judgment if she were quite certain that the order was wrong.

( ) C Cannot bring herself to blind obedience and likes to do her own thinking.

5

( ) A Is inclined to resent criticism at times if she thinks it very unfair, but soon forgets her resentment.

( ) B Believes in always standing up for her rights if the criticism is unfair or spiteful.

( ) C Accepts without question any criticism by a superior.

6

( ) A Dislikes set rules and hard and fast regulations. Prefers to meet situations as they arise.

( ) B Is too much set in her ways and likes everything to go by absolute routine.

( ) C Is fairly methodical but does not dislike change.

7

( ) A Is interested in her work but has some time for other things.

( ) B Is too much absorbed in her job, to the exclusion of everything else.

( ) C Refuses to be tied down to her job. Has a great variety of interests.

( ) A Believes in keeping things tidy but is not disturbed by occasional slight disorder.

( ) B Does not believe in wasting time in getting things in absolute order, provided she can find things when she wants them.

8

( ) C Spends a great deal of time in getting things in order and feels disturbed if they are not in their accustomed places.

( ) A Is reasonably careful, but will hurry over an unimportant job.

9 ( ) B Is overconscientious and worries a great deal over every detail of what she undertakes.

( ) C Does her best but doesn't worry.

( ) A Usually attends to things promptly but may postpone occasionally.

( ) B Cannot bear to postpone any duty or task, however trivial. Must attend to things at once, even at the cost of inconvenience.

10

( ) C Is not a slave to method and does not mind postponing things to a more convenient time.

( ) A Is much more interested in the doings and welfare of other people than in her own. Is too much concerned with others' problems.

( ) B Is interested in other people's problems but thinks sometimes of her own.

11

( ) C Believes in thinking out her own problems without worrying about other people's.

( ) A Is usually bright and cheery.

( ) B Believes in being natural and that there is no use being gay when there is nothing to be cheerful about.

12

( ) C Is always cheerful whether there is anything to be cheerful about or not. Is something of a Pollyanna.

( ) A Does not buy things unless she is sure she can pay for them fairly promptly.
( ) B Must pay for everything as soon as she purchases it. Hates the idea of owing anything.
13 ( ) C Does not worry over money matters. Will buy what she wants when she needs it provided she knows that she can pay for it ultimately.

( ) A Is always solemn and serious, even when she is not working.
( ) B Believes that most people are too serious and that she can mix a little pleasure with her work without having the work suffer.
14 ( ) C Is serious in her work but relaxes at other times.

( ) A Shows at her best in company and tends to take the initiative at parties.
15 ( ) B Is at ease with people she knows well.
( ) C In company is shy and retiring and somewhat ill at ease if strangers are present.

( ) A Will take the lead in an emergency if she is certain that she can handle the situation.
( ) B Will not take the lead in an emergency unless forced to do so.
16 ( ) C Knows that someone must take the lead and does not hesitate to assume control in any emergency.

( ) A Likes to manage other people, and is a little bossy at times.
( ) B Usually gets her own way with people.
17 ( ) C Prefers to allow people to have their own way rather than make an effort to impose her will on others.

18
( ) A Usually tells the truth—sometimes when it hurts.
( ) B Will conceal or evade the truth if telling it would get her into unnecessary trouble.
( ) C Always tells the truth no matter how unpleasant the consequences.

Nurses' Social Rating Scale—Form B

1
( ) A Likes to work at top speed all the time.
( ) B Dislikes to be hurried—makes fewer mistakes if she can take her own time.
( ) C Prefers to work moderately fast.

2
( ) A Attention occasionally wanders when doing routine work.
( ) B Keeps her mind on her work at all times.
( ) C Attention sometimes distracted, especially if she is worried.

3
( ) A Does not show at her best if under critical observation.
( ) B Is able to show up well under the eye of a superior officer.
( ) C Does equally well whether observed or unobserved.

4
( ) A Does her best to be always tactful. Goes out of her way to please people.
( ) B Is considerate of the feelings of people she likes.
( ) C Believes in absolute frankness in her dealings with people.

5
( ) A Is much disturbed by any criticism.
( ) B Is not disturbed by criticism provided she is satisfied with her own work.
( ) C Is moderately disturbed by criticism.

6
( ) A Is moderately systematic.
( ) B Would not let a little untidiness or lack of system worry her unduly.
( ) C Is systematic and orderly to an extreme.

7
( ) A Is interested in the important parts of a job but dislikes the petty details.
( ) B Likes to finish a job to the last detail before beginning anything else.
( ) C Is reasonably careful in finishing up a job.

8
( ) A Never makes excuses for herself under any circumstances.
( ) B Makes excuses occasionally.
( ) C Does not accept blame unnecessarily, since people get on better if they can put themselves in the fairest light possible.

9
( ) A Is inclined to underrate her own ability.
( ) B Is quite confident in her own ability.
( ) C Is confident in her ability when she is quite familiar with the job.

10
( ) A Is oversympathetic. Gives other people more time and attention than she should.
( ) B Is moderately sympathetic.
( ) C Is not very sympathetic because she believes most people get more sympathy than is good for them.

11
( ) A Has many friends but does not go out of her way to become popular.
( ) B Does not care about popularity.
( ) C Enjoys popularity. Likes everyone to think well of her.

12
( ) A Worries only over personal matters.
( ) B Worries a good deal about her work.
( ) C Takes life easy—doesn't believe in worrying.

13
( ) A Likes her own way most of the time.
( ) B Never insists on having her own way if there is any opposition.
( ) C Insists on her own way now and then.

14
( ) A Does not wish to interfere with or control people's actions, even when they are wrong or unwise.
( ) B Likes to direct other people.
( ) C Does not care about influencing or directing other people, but will do it when required.

15
( ) A Would not break a rule under any circumstances.
( ) B Believes it is all right to disregard a rule very occasionally.
( ) C Would disregard a rule if in her judgment it did not fit the occasion.

16
( ) A Is very rarely moody or depressed and only with sufficient cause.
( ) B Is never moody or depressed.
( ) C Sometimes feels moody or depressed without special cause.

17
( ) A Is never critical of others.
( ) B Is inclined to be overcritical.
( ) C Is critical sometimes.

18
( ) A Dislikes advice and prefers to find out and remedy her own mistakes.
( ) B Likes plenty of advice or instruction.
( ) C Occasionally seeks advice or instruction.

NOTE. Scoring keys for use with the scales above can be obtained from the Psychological Clinic of the University of Hawaii.

References for Chapter XX

Burt, Cyril, *A Study in Vocational Guidance,* Industrial Fatigue Research Board Report, No. 33, London, 1926

Burtt, H. E., *Principles of Employment Psychology,* Houghton Mifflin Company, Boston, 1926

Earle, F. M., and Milner, M., *The Use of Performance Tests of Intelligence in Vocational Guidance,* Industrial Fatigue Research Board Report, No. 53, London, 1929

Frank, J. D., "Individual Differences in Certain Aspects of the Level of Aspiration," *American Journal of Psychology,* Vol. 47, 1935 (See pp. 119-129.)

Hollingworth, H. L., *Vocational Psychology and Character Analysis,* D. Appleton-Century Company, Inc., New York, 1929

Hull, Clark L., *Aptitude Testing,* World Book Company, Yonkers, New York, 1928

Keller, F. J., and Viteles, M. S., *Vocational Guidance Throughout the World,* W. W. Norton & Company, Inc., New York, 1937

Link, H. C., *Employment Psychology,* The Macmillan Company, New York, 1919

Lurie, Walter A., "Estimating the Level of Vocational Aspiration," *Journal of Social Psychology,* November, 1939

Moss, F. A., and Hunt, T., *Aptitude Test for Nursing,* George Washington University, Washington, D. C., 1931

Myers, C. S., *Industrial Psychology,* Henry Holt and Company, Inc., New York, 1929

O'Connor, Johnson, *Born That Way,* The Williams & Wilkins Company, Baltimore, 1929

Paterson, Donald G., and Others, *Minnesota Mechanical Ability Test,* University of Minnesota, Minneapolis, 1930

Strong, Edward K., "Classification of Occupations by Interests," *The Personnel Journal,* April, 1934

——, "Interest Maturity," *The Personnel Journal,* August, 1933

Strong, Edward K., *Vocational Interest Blank,* Stanford University Press, California, 1930

Thorndike, Edward L., and Others, *Prediction of Vocational Success,* Commonwealth Fund, New York, 1934

Toops, Herbert A., *Tests for Vocational Guidance of Children Thirteen to Sixteen,* Teachers College, Columbia University, New York, 1923

Viteles, M. S., *Industrial Psychology,* W. W. Norton & Company, Inc., New York, 1932

CHAPTER XXI

Clinical Service and Relationships

Previous chapters have dealt in turn with the role and training of the clinical psychologist, neurological theories underlying his practice, tests and measurements, and the main types of mental, social, and educational deviations. In the discussion of these topics there are many points of importance in clinical practice which may have been omitted or emphasized insufficiently. This chapter, therefore, is devoted to a brief review of several of the considerations relating to relations between the child and the parent, the teacher, and the psychologist.

Changes in the Status of the Child. Because the psychological clinic deals chiefly with juvenile cases, any major changes that take place in the treatment of children either at home or at school are bound to be of importance to the psychologist—and there is little doubt that these major changes are taking place. To a large extent the psychologist and the psychiatrist are responsible for this condition, particularly the latter. From his experience with the adjustment of the psychoneurotic, the psychiatrist has learned a great deal of the sources of individual anxieties and fears, and he has not hesitated to announce his discoveries in such plausible terms that they have been rather hurriedly adopted as valid social generalizations. Phrases are used continually with vague connotations. We hear much, for example, of child-centered schools—but what schools are not child-centered?

In fields other than the educational, it is astonishing how prone people are to extend credulity to claims that are supported by any evidence that is called scientific. Even magazine advertisements are full of references to laboratory tests of this or that, to experts' reports, to mysterious vitamins or other recently discovered essences. All this indicates a desire to share in some way the cloak of scientific prestige.

In the field of child guidance there is the same urgent desire to be modern and up-to-date. Psychiatrists have rightly condemned the old repressive methods, but there is grave danger that nowadays they are shooting at a dead crow in their pronouncements. Childish autonomy may have already proceeded too far. The necessary relaxation of the bonds in the case of certain frightened, insecure children may easily lead to the notion that all restraint is bad and that fear should be done away with as a source of motivation. It is this too wide interpretation of psychiatric principles that is largely to blame for the swing of the pendulum towards the withdrawal of the parent from activity in child training. Plant, for example, states that "early in childhood a 'wall' forms about the personality which protects it from intrusion. Where parents are too intrusive, make too many rules, meddle too much, this wall thickens to one of negativism, and this may be treated only by the construction of a more 'friendly' environment." [1] It can readily be seen how easy it might be for many a would-be scientifically minded parent to read such an authoritative pronouncement and give it the entirely erroneous interpretation that all parental rules and discipline represent an intrusion on

[1] Plant, James S., *Personality and the Cultural Pattern,* Commonwealth Fund, New York, 1937, p. 35.

the child's individuality. In short, the psychoclinician, whether psychiatrist or psychologist, must beware of his own persuasiveness. Particularly must he guard against setting forth as established and proved principles certain theories of child guidance that are still in the experimental or trial stage. Child guidance is not yet so scientific that it can obviate all necessity for child control, though it may eventually gain that status. Many modern parents believe that treating the child from the beginning as if he were a reasonable being will make it unnecessary for them ever to adopt the "Do-it-because-I-tell-you" formula. That is all very well except for the fact that the child is often far from being a reasonable being and in many directions his own safety and welfare depend upon obedience.

It may or may not be a consequence of this changed attitude toward the child in the home that America seems to be passing through a phase in which juvenility is exalted to an unprecedented place in public attention and acclaim. An infant prodigy such as Shirley Temple or an adolescent Mickey Rooney occupy the spotlight of notoriety in a most extraordinary manner. Coincident with the extension of the average span of human life has come the lengthening of the period of juvenility. On every hand we see this preoccupation with extremely youthful things; it is reflected in the fashions, in the magazine articles on glamor girls and boys, in the low intellectual pitch and appeal of radio programs, in the comic strips, in the animated cartoons, in the arts, and in almost all forms of public entertainment. On all sides there is an unmistakable trend towards childishness—at least we hope that it is merely childishness, not moronity. There may be no causal connection, but it is interesting to note

that this tendency synchronizes with the new emphasis on the rights and privileges of the child.

Time alone will show whether youthful independence more fully achieved will result in greater ability on the part of children to manage their own affairs. The wide application of such a measure as Doll's Maturity Scale at 20-year intervals may reflect changes in the status of children. At a time like this, when parents find it difficult to draw the line between privilege and presumption and when there is a keen struggle between the parental superego and the id of the child, the psychological or psychiatric clinic is sure to be filled with problem cases. It is important for the clinician to determine what attitude he should take in relation to this important problem of child adjustment. Shall he join the ranks of the progressive educators and many of the psychiatrists who sincerely believe that mental and emotional maladjustment is the product of the authoritarian attitude of teachers, parents, and adults in general? Or is it time to adopt the more conservative view that self-discipline needs some external stimulus and support? Since discipline and control are necessary in a well-ordered existence, is it not reasonable to suppose that the child who has been largely governed by self-interest will find them extremely irksome when he inevitably meets with them in social affairs?

Social Ritualization. In this connection there are one or two points well worth brief consideration. In the first place, it is wise to remember how much of our behavior is socially ritualized. That ritualization which pertains to person-to-person contacts is called courtesy. Good manners within any given culture have a biological value—they assist in winning the co-operation of our fellows and diminishing the opposition of our competitors. Without

tact and courtesy the inertia and negativism of humankind will have a stultifying effect on individual initiative. Sheer weight of numbers may force the would-be reformer back into the social mold of conservatism unless he can exercise the gift of persuading others and inspiring them with confidence in his leadership. So important is tact that Allport identifies it with social intelligence.

We have already alluded to the part played by good humor in the social drive; the many observances which imply the yielding of privileges in social intercourse have a similar value. The school or home training that utilizes self-interest as the means of self-discipline is neglecting the opportunity to teach social ritualization. In some so-called progressive schools, the manners of the children as a group are atrocious. Possibly these schools are misapplying the new education, for there is ample evidence that modifications of the attitudes of progressive educators are taking place, especially in the direction of more conscious guidance of the child.[2]

It is interesting to note that the ritual of social approach is in part instinctive with animals. To realize this fact it is only necessary to observe the sidelong gait, the wagging tail, the utter relaxation of psychomotor tensions, indicating complete submissiveness, that are employed by a puppy when approaching an older, stronger dog. Since habit in humans must be substituted for instinct in so many ways, and since social co-operation is so much more important to us than to animals, it follows that we cannot afford to neglect training in social ritualization.

[2] See, for example, W. Carson Ryan's discussion (in *Mental Health through Education,* Commonwealth Fund, New York, 1938) of teacher and pupil planning in school work (p. 156); also Dr. Elizabeth Lord's excellent letter to Ryan indicating what learning to face reality entails (p. 157, footnote).

Respect for age, for example, rests on the general assumption, sometimes unfounded, that years bring wisdom and that the young, when they wish to take advantage of this experience, must pay for it by courtesy and consideration. In similar fashion men's courtesy towards women is in the nature of a token payment in acknowledgment of the fact that they receive from them certain considerations essential to most men's happiness and which they can obtain from no other source. This is, it would seem, a more reasonable basis for this form of behavior than the idea of protection given to the weak by the strong. Ritualization of conduct in this way may be regarded as a granting of privilege to all, so that it will not be lacking in the case of those to whom it is appropriate. As an essential part of living, it must be taught.

Psychological therapy, then, must be accorded to those who are rough, boorish, and unduly self-assertive or, as we say, *uncultured.* The very application of such a widely descriptive term indicates the importance generally ascribed to social ritualization.

Education as Preparation for Adult Life. Progressive education is undoubtedly one of the most vitalizing movements of modern times; old-fashioned schooling certainly needed a wholesome injection of progress and common sense into its veins. Nevertheless, there should be protest against certain misinterpretations of what would otherwise be a very penetrating observation, namely, that education is not preparation for life but a part of life itself. Some psychiatrists who appear to be rather oversold on mental hygiene have unwittingly assisted in this misinterpretation. For example, Plant in his otherwise excellent book on the role of the clinic with regard to the individual and to the community says:

. . . childhood is life rather than merely a preparation for life. Children, in the family and the schoolroom, are living, are working through problems of human relationships, have a definite cultural pattern about them, just as much as adults. Children still are kept quiet for long hours in school—not because human relations are devoid of speech or movement, but because childhood is thought of as having no value in itself.[3]

Though this contains much that is true, it tends towards overstatement. In a most important sense life in childhood is not the same as adult life. There is not the same freedom of action or responsibility—socially, industrially, or educationally. All the safeguards that society has provided for its adult members are redoubled for children, and for this protection the child pays by a degree of submissiveness to experience. A child is not a full social unit, any more than a first-year student of medicine is a doctor, or a student with an instructor sitting within reach of the airplane controls is an aviator. Good living must be learned; it is not entirely self-taught.

There is no value in pointing out, as if it were a discovery, the fact that the newborn babe is alive. Life as we begin to live it is a highly dependent and artificial state of existence. From the acquisition of feeding and toilet habits onwards, the infant is not working *through* problems of human relationships as much as he is being directed and assisted in working *into* those problems. In every practical sense life for the young child is still "around the corner." However, we can still encourage in him an attitude of nondependence, even though independence is neither possible nor advisable. This is a useful distinction. Sexually, industrially, economically the child

[3] Plant, James S., *loc. cit.*, p. 405.

cannot achieve the degree of freedom which society grants the adult; nevertheless, his training may still, within bounds, allow him more self-determination than was at one time thought desirable. Control does not necessarily mean repression, and adults must be allowed some privileges in applying what wisdom they possess on behalf of the child.

The Lynds, in their book on Middletown, describe school routines "contrasting," as Ryan [4] says, "with telling effect the artificiality and unreality of school with the reality of living." They say:

> The school, like the factory, is a thoroughly regimented world. Immovable seats in orderly rows fix the sphere of activity of each child. . . . For nearly an hour a teacher asks questions and pupils answer, then a bell rings; on the instant books bang, powder and mirrors come out, there is a buzz of talk and laughter as all the urgent business of living resumes momentarily for the children, notes and dates are exchanged.[5]

No psychologist would uphold in its entirety such lockstep methods in education as Middletown typifies, yet at the same time the criticism seems decidedly superficial. It appears to neglect the fact that life is largely regimented, just as school must be. No one supposes that silence is imposed in the classroom for the sake of silence or that the aim of examinations is to repress educational freedom. Restriction of one's sphere of activity, adjustment to the needs of others, and work itself are surely just as much part of the "urgent business of living" as powdering one's nose or making a date. Education, even of the old-fashioned sort, was also living and not a mere

[4] Ryan, W. Carson, *Mental Health through Education,* p. 38.

[5] Lynd, Robert S., and Lynd, Helen, *Middletown,* Harcourt, Brace and Company, Inc., New York, 1929, p. 188.

preparation for life. It is easy for the psychiatrist or the sociologist, neither of whom, probably, has taught a class of children, to be critical of some of the tiresome but necessary routines of teaching.

Unless he is to be overimpressed with scientific shibboleths, the psychologist would be well advised to adhere to a philosophy of "gradualness." Personally, the author is distrustful of all revolutions, either of theory or of practice. It is doubtful whether there are any sudden and striking advances in human thinking. There are always new movements, as, for example, psychoanalysis or progressive education. For a time they promise to revolutionize practice. But after the attraction of newness has worn off, a pruning process takes place and a great many poorly supported or unproductive branches are lopped off. What is left is found to be largely a matter of new emphasis rather than of discovery. In the same way political or economic revolutions, though for a time they seem, like Ezekiel's wheel, to be "way up in the middle of the air," finally come back to earth and somehow fit into the framework of a more ordinary vehicle. The encouraging thing is that there is progress, even though it be infinitesimal.

Human Plasticity. Psychiatry has been aptly described as "glorified common sense"; clinical psychology might then be regarded as common sense without the glory. One extremely salutary application of common sense is the reminder that in many cases neither parent, teacher, nor psychoclinician is nearly so important an influence as he thinks he is. Though one can admit the importance of environment, it is easy to overestimate the plasticity of human nature. Leon Marshall, for example, says that biology, in contrast with the older ideas in the

social sciences, is showing that human beings have "a perfectly fabulous plasticity." [6] Here again is a gross overstatement. If some recent pronouncements of a small group of psychologists were accepted—that by changing the environment, feeble-minded individuals can be raised to normal status in intelligence—then plasticity would indeed be fabulous. But such a view does not deserve serious consideration. On the contrary, biological science clearly shows that the bounds of plasticity are firmly set. The work of Spemann and others in transplanting portions of the embryo showed that up to a certain point there is remarkable plasticity. Forelimbs transplanted to the position of hindlimbs were transformed in structure and took on the characteristics and functions of the lower limbs. But at a later period of development all this is changed. Jennings says:

> If now, at this later stage, parts are transplanted from one region of the embryo to another, the results are wholly different from those produced earlier. Cells that normally produce eyes will now still produce eyes, though transplanted to a region where eyes are wholly inappropriate. A set of cells whose prospect is to produce integument still produces integument, though transplanted to the region where a part of the brain is required. . . . Development has in the main ceased to be adjusted to the conditions surrounding the cells.[7]

Thus it is seen that, biologically speaking, plasticity has its decided limits and that the older we grow, the less it is possible to change effectively the course of development. However, we can assume a lengthened period of

[6] Marshall, Leon, "The Relation of Education to Government Administration," *Educational Record,* July, 1937.

[7] Jennings, H. S., *The Biological Basis of Human Nature,* W. W. Norton & Company, Inc., New York, 1930, pp. 96 ff.

plasticity in the nervous system, although direct evidence is scanty.

Because we are unable accurately to plot in advance the developmental course, we are forbidden any cocksureness in prediction. Time is often on the side of the therapist. The child may be father to the man, but offspring and parent grow further apart as the years go on. Development of personality as evinced by changes in deep-seated attitudes and modes of reacting do take place, sometimes suddenly, as the result of religious conversion or psychoanalytic treatment or some other critical event, but more often through the gradual but insistent pressure of circumstances. In such cases we cannot be sure that there were not inherent in the individual the seeds of change. In the case of problem children it is well to recognize that we may underestimate their adaptability; increasing age may bring better social insight, and the individual, if intelligent, may realize that childish attempts at gaining social approval are ineffective and so may change the nature or direction of his efforts. We must also recognize a class of individuals who fail to fulfill their early promise.

These remarks are intended as reminders that clinical psychology is too young in practice to enable us as yet to correlate definitely early predictions or diagnoses with end results. The cautious clinician will often find it necessary to defer diagnosis.

Suggestions for Improved Clinical Practice. After this frank acknowledgment of certain inadequacies in clinical prediction, we may set down briefly certain suggestions for definite improvement in practice.

We have already emphasized the extreme importance of obtaining as early and complete rapport as possible

with the child. Some workers have such unusual ability in this regard that color is lent to the belief that many of the attributes of the good clinician are inborn rather than acquired. Even though this may be true, there are many opportunities for conscious improvement in our psychological approach to the problem child. It is helpful to recognize the fact that he has much to teach us. Plant wisely remarks:

> As has been said, it has been the problem child who has shown us the problems of the child. The fact is that our therapy must always be oriented to what the maladjusted are telling us of Family, School, penal measures, Industry, the Church, etc. . . . This is the great contribution of the misfit.[8]

It will certainly be helpful to productive rapport if we value each individual case as a range finder through which we can focus on the problems and conditions of society.

One of the assets for clinical work is sufficient imagination to be able to put oneself in the child's place. As a beginning we might try and realize what it may mean to him to be brought to the clinic—perhaps by a comparative stranger—to be left to wait in a room that is painfully like the anteroom of a dentist's or a doctor's office, and then to be conducted into a testing chamber, there to be asked a number of searching or difficult questions. The situation may even be worse when the parent accompanies the child. He sees mother or father disappearing into an inner office, no doubt to talk over all his intimate history, perhaps to expose all his bitterly regretted shortcomings and failures. Such an experience may add significantly to the child's already shaken feeling of

[8] Plant, James S., *loc. cit.*, p. 413.

security in the parent's confidence and affection. This is clinical practice at its worst, and these conditions exist only with exceptionally sensitive children. Though the ordinary child seems little affected by a clinic visit, there are some in whom initial distrust must be removed by very careful handling.

Clinical Relationships. With regard to the relationship that is set up between child and examiner, the warning that Plant gives to psychiatrists may well be heeded by all psychoclinicians.

> They seem blind to the fact that the psychiatrist finds himself in every situation fulfilling or failing to fulfill the patient's quest for new parent, mate, friend, or sibling! [9]

Adults who come to the clinic often find themselves in a far more uncomfortable situation than the children do. The experience may represent a form of confessional in which failure and incompetence are admitted and painful happenings dragged from the recesses of memory and displayed to view. Early in clinical experience the psychologist will learn to recognize the verbal exhibitionist, who delights in discussing personal problems; but to the ordinary person the visit to the clinic may resemble confession without its consolations of religious atonement and absolution. For a first interview, at least with an adult, it is a good rule to refrain from taking notes, relying on the memory to jot down afterwards the pertinent points. Making a written record in front of the case tends to add to his discomfort.

In the case of very young children the psychologist's attitude should be a matter for concern. If one is not too grown up in the sense that he still retains some of his

[9] Plant, James S., *loc. cit.*, pp. 29-30.

own childish zest for play and fun, so much the better; he does not then have to pretend that he enjoys children's company because he really does so. We are not sufficiently skilled in psychology to say how it is that a child or a dog or a horse senses real friendliness and sympathy or, conversely, knows when one is afraid of him. There may be some complex of minimal signs by which we betray ourselves. It is extraordinary how quickly children recognize a teacher as a good or a bad disciplinarian. If she is really interested in children, discipline is usually no problem.

One of the author's severest tests of the ability to achieve testing rapport was his attempt to examine a group of savages in Central Australia who possessed only one word in common with him. It was instructive to find how well pleasant looks and a smile and this one word, "Ballalincka!" (very good), could pass as the currency of social intercourse. Somehow or other these aboriginal companions, without the benefit of an interpreter, accepted the examiner as a person who was genuinely interested in them as people, even though their culture and background were entirely alien to his. A courteous message was given also by a group of Bechuana natives who were informed by the interpreter that the visitor knew no Sechuana, their native tongue. "Tell him," they said, "that we are very sorry for him."

Sympathy and a broad understanding are part of the general equipment of a successful clinical psychologist, and these characteristics are shared, of course, by other professional workers. A pleasant manner can be cultivated, and the attention given to the case should be such that he is made to feel that he himself, not the parent nor the social worker, is the important person in the situa-

tion. In the case of the delinquent it is usually necessary to reassure him on one point, namely, that the examiner has no official connection with the police or the juvenile court and that what he says will not under any conditions be used against him. The close of the interview should leave the individual feeling that the whole experience of his visit to the clinic has been a pleasant affair and that a new and friendly relationship has been established. Occasionally, for therapeutic effect, the psychologist may wish to use the test results as the basis for a demonstration of remediable weaknesses, but if this is done, care should be taken that as a counterbalance reference is made also to things that the individual has done well.

Every effort should be made to ensure privacy. For this reason no third person should be allowed in the testing room. If observation is necessary for training purposes, it should be through a one-way screen. It is also disconcerting to examiner and subject to have interruptions during the interview; no other testing should be going on within earshot.

Most psychoclinicians disapprove of a practice prevalent in at least one well-known clinic—that of demonstrating the case with the individual present, as in a medical or hospital clinic. Nor would they concur with the procedure adopted by some psychiatrists of discussing the child's problems with the parents present.

Some other minor points about clinical relationships are worth mentioning. There is, for example, the routine of introducing the subject to the tests. The social ritual appropriate to the occasions should be observed. It is well for the examiner to have informed himself beforehand of the child's name, so as to avoid the discourtesy

of a blunt inquiry regarding this matter. To shake hands may be advisable at the end of the interview but not at the beginning. Most adults can remember the embarrassment they suffered as children when strange adults thrust out large parental paws towards them. It is much better to greet the child as if he were already known to the examiner and to begin the testing without any long-winded explanation. The simple and direct approach is preferable: "I want you to try some tests that are just like playing a kind of game. Did you ever do any mental tests?" Some such introduction is sufficient for the ordinary child; but if he is extremely diffident and shy, a longer time should be taken to get acquainted before beginning the examination. A test easily within the child's grasp is, however, an excellent ice-breaker. In the matter of relationships there is one advantage which the psychological clinic possesses over many psychiatric organizations, namely, that the different worker-child contacts are usually fewer. It is most disconcerting to some children to be driven from pillar to post, investigated by the social worker, then examined by the physician, tested by the psychometrist, interviewed by the psychiatrist, and finally handed back to the psychiatric social worker (whom Plant likens to "a sort of dilution of the psychiatrist") for supervision or treatment.

Although the psychologist uses objective measures where they are available, he is far from being a passive recorder of results. There is room in clinical practice for what has been called the intuitional approach, but which is better regarded as based on attention to the minimal signs and symptoms of unresolved conflicts. If it is intuition, it at least requires the most careful and sustained attention. Diffidence, anxiety, emotional apathy, repressed

resentment, sibling jealousies and rivalries, a sense of guilt or insecurity—all these are sensed by the alert and sympathetic observer, not from what the subject says, but often by what he does not express in words. The very restraints and limitations of short-term treatments and examinations make it incumbent on the examiner to get all that is possible from the interview.

Form and Content of Clinic Reports. A word should be said in relation to the form and content of the written report of the examination. The procedure of clinics differs materially in this regard. The report should be as brief and to the point as possible, consistent with giving a worth-while picture of the child and his abilities. Any other information should be put down in the form of office notes which are copied and filed with the printed examination forms.

There is danger that the worker will readily fall into set forms of expression. Reference has already been made to the unqualified use of psychiatric terms, such as *frustrated, level of integration, parental rejection, inferiority complex* (now fortunately somewhat outdated). Objections can also be advanced against such vaguely generalized terms as *libidinal* or *ego satisfactions, reactive types,* and the like. The psychologist should be more specific in his characterizations in his reports. Psychological clichés are already too numerous.

Let us pick out from the records an ordinary run-of-the-mill report, a case which presents no spectacular features but which will serve to exemplify the analysis and interpretation of a mental examination.

A girl 17 years of age in her second year of high school was examined at the clinic on March 22, 1940. She was referred by a social agency with a rather long social his-

tory, mainly concerned with her relations with her mother. The girl seemed very much attached to her father and said that she hated her mother. She felt that her mother's refusal to go out interfered with her pleasures. The mother for her part complained that her daughter was impertinent and bad-tempered and resented any show of affection between her and her husband. The immediate problem was the girl's poor showing in schoolwork, her record showing failure in mathematics, a B in English, an A in Dispensary work, and D's in all other subjects. The social worker asked for a general report on the girl's capabilities with a view to some vocational guidance. Two staff members saw the girl and presented the following coalesced report:

(1) She is a little below the average mental level of high-school students. Her Binet I.Q. (Form L) of 105 is not high enough to indicate suitability for college.

(2) Successes in rote memory, which in her case seems to have little application to other learning situations, contributed considerably to her mental age score (her span was 8 digits forwards, 6 digits backwards). Verbal facility was good, her vocabulary being a little above the average adult level. Defining abstract terms was difficult for her. She was very verbose and tended to lose herself in a maze of attempted explanations. Mechanical arithmetic was fair, but reasoning ability was very weak.

(3) Her difficulties are both intellectual and temperamental. Her intelligence has little flexibility, so that her capacity in one direction cannot be utilized in another. As soon as the problem changes from a familiar form she is all at sea. She tends to fill in the gaps in her thinking with talk and shows no disposition to persist with a difficult problem. What she cannot answer immediately and easily, she recoils from. She has what might be called a "brittle" mind.

Temperamentally she lacks self-confidence to a rather marked degree, but tries to cover this up with a show of sophistication. She wants to appear at advantage, but when she meets a difficulty she protects herself by saying that the activity in question is not in her line. So she makes no genuine attempt at any mathematical problem, but simply throws up the sponge. When she feels more convinced of her ability, she does not lack persistence. The quality of her performance may be summarized by saying that she has very ordinary intelligence without flexibility but with some special abilities.

(4) Her response to a performance test (the Maze) showed similar temperamental deficiencies. She wanted to have the directions repeated, asked unnecessary questions, kept up a running commentary on her performance on the tests, was needlessly apologetic for her poor drawing, overestimated the difficulty of the task, and made a verbal fuss over immaterial points. Throughout the examination there was an effort to appear at ease and to hide her sense of insecurity with a flow of sophisticated chatter. Apart from these qualitative defects, her score was satisfactory.

(5) The remedial measures that should be taken in this case would entail long-continued treatment. Her difficulties are bound up not only with her relations with her parents but also with society in general. A frank discussion of her problems might give her a better basis of self-understanding.

(6) In the interview with Dr. Palmer there were certain considerations which emerged and which seemed important from the standpoint of the girl's adjustment. The psychologist noted a tendency in the girl to dramatize her situation for the purpose of gaining notice and thus increasing her own sense of importance. As a substitute for more legitimate ways of winning attention, this dramatic habit is unwholesome. Dr. Palmer suggests that it may be in part an imitation of her mother's way of behavior.

I have previously mentioned that it might be helpful to show the girl that her own outstanding faults are largely due to

copying the things she dislikes in her mother. Dr. Palmer points out, however, that the girl is already too self-analytical and that she seizes upon things that are told her to justify her own conduct—for example, she talks of the relation of the mother's conduct to the menopause and of her own emotional instability as being connected with adolescence. The wisdom of further personal discussions with the girl could best be dealt with at a case conference.

There was also a slight disagreement with regard to the girl's mental status. Dr. Palmer thought her to be of average adult level (Binet Form M, I.Q. 111). My own opinion was that her ability was more apparent than real, and that more emphasis should be placed on the poor quality of her performance.

(7) The immediate problem, outside of her behavior, is her choice of a vocation. There are several lines of work open to her, though both her avowed interests—nursing and writing—are beyond her ability. The first of these was suggested by Dr. Palmer on the basis of her good showing in dispensary work at school. However, the training period is too arduous and her lack of self-confidence is too obvious to warrant her entering a nursing course. Librarian's assistant or, at a lower level, drugstore assistant would be more in accord with her abilities. Stenography is recommended, as her facility in English and good rote memory would be helpful.

(8) Both psychologists concur in the opinion that much of the girl's behavior represents defenses that she has been compelled to use against her mother's behavior, and we would recommend a temporary separation. If she can be placed in a residential school for a term, a better effort could be made to make an adjustment with her family. The clinic staff would be glad to participate in a more positive program of vocational advice and improved emotional and mental adjustment.

Like the subject of examination, this report is rather verbose and could be condensed with benefit. Part of its

prolixity, however, is due to the endeavor to avoid technical psychological terms and to frame its findings in everyday language. It is also rather vague in its recommendation of a "more positive program," and no reference is made to the necessity of a very tactful approach to the problem of scaling down the girl's vocational ambitions. Phrases such as a "brittle mind" may express a great deal to the writer of the report but perhaps will convey little to the reader. Psychoanalysts would no doubt condemn the neglect of the evidence of an Oedipus complex; but if it exists, it had better be left alone, unless there is a reasonable chance of effective therapy in that regard. It should also be remembered that the report itself was the forerunner of a conference with the social worker, when some of these points were probably elucidated. On the credit side of the account is the fact that the tone of the report is not final or authoritative and the points of disagreement between the examiners are honestly presented. It might be noted that the Bell Adjustment Inventory was given but added practically nothing to the results of the interview.

Final Considerations. One phase of clinical experience will seem to be entirely overlooked in this book—the matter of health and physical condition. Because there is little mention of it here, it should not be supposed that such symptoms as physical restlessness, nervous habits and tics, peculiarities of gait or facial expression, and sensory defects will not be noted when apparent and given due weight in describing the child. If there is any suspicion of special physical ailments or difficulties, the child should be referred at once to a pediatrician. But as far as the clinical psychologist is concerned, these matters are outside his province.

A final word should be added with regard to one clear responsibility of the clinical psychologist in the carrying on of his profession: he must not pretend any certainty beyond what the facts warrant. Ordinary scientific caution forbids any dogmatism in this field. In his contact with cases he must, of course, adopt and consistently maintain a nonjudging attitude, but this is a necessity rather than a virtue.

That life is a very complicated affair and human reactions difficult to understand is a statement as banal as any other obvious truism. The attempts to probe and interpret the structuring of human personality are like our efforts to read human pre-history through archaeological deposits. Every object that is found can only be understood or evaluated in relation to its horizon at the time of deposit. Similarly, we must look at the events of individual history only in relation to their actual setting in time and place—an horizon which it is sometimes difficult or impossible to reconstruct. To use another simile, we may plot the course of the stream, but without complete knowledge of the obstructions that occasioned all its windings, for these have long ago been swept away with the current. Ordinary clinical procedures do not allow of such an adequate reconstruction of the individual's history as to account for all his activities; we must be content with mapping the general direction of the stream and its main tributaries. This viewpoint engenders caution in interpreting the subject's past, enjoins the most careful attention to every phase of his present behavior, and warns us to be conservative with regard to predictions of his future.

"As through a glass darkly" is a fitting description of our insight into human nature and its various expressions

in action. We may be frankly skeptical of glib explanations so commonly current in modern psychological and psychiatric literature, and yet be confident of progress. The devising of objective approaches is a most decided step forward, but we must realize that there are still many diagnostic gaps which only a wise intuition may fill. In the meantime—while we await new advances and new methods of study—an open mind, a considerable fund of hard common sense, a fairly deep self-insight, the broadest possible human sympathy, and a persistent desire to see the often devious reasoning behind all human reactions, however strange or capricious they may seem, remain among the best attributes of the clinical psychologist.

INDEX

INDEX

Abnormal psychology
  relation to clinical, 5, 6
  use of Rorschach test in, 223
Abstract ability
  as division of intelligence, 95, 97 ff.
  overweighting in Binet, 115, 120
Achievement tests
  of reading, 427
  prediction of educational success, 512
  Stanford Arithmetic, 431
Ackerson, Luton, 298
Adjustment
  and level of mentality, 40
  harmonious, 60
  means of estimating social, 40
Adler, Alfred, 476, 479, 505
Adler's psychoanalytic system, 479
  constructive nature of analysis, 481
  organic inferiority theory, 479
  relation to social and individual psychology, 480
Alexander Performance Test, 108
Adults
  attitude to clinical interview, 550
  attitude to Maze test, 155
  clinic cases, 32, 33
  effect of contacts on child's I.Q., 408
  results of psychological study of, 505
Allen, Frederick, 38
Allport, Floyd H., 65, 196
Allport, Gordon W., 4, 185, 196, 505
  definition of personality, 187
  definition of temperament, 190
  on social intelligence, 190
  personality psychograph, 189
Amatruda, C. S., 402
Ambivalence, 489
Anderson, Irving H., 457
Anderson, John E., 53, 392
Anger
  and obstructions of adequate response, 79
  Landis's interpretation, 82
  related to fear, 504
Anxiety states
  in young children, 390
  shown by Rorschach test, 225
  symptoms in interview, 502
Appel, Kenneth E., 267
Army Test
  results, 116, 237
  scores by vocations, 509
Arnold, Matthew, 47
Arthur, Grace, 202, 208, 209, 212, 215, 216, 226
Arthur Performance Scale
  correlation with Binet and Maze, 211
  description, 208
  discriminative value as criterion, 133, 210
  purpose, 208
Artistic ability, 101
Attention, physical conditions of, 63
Attitudes tests, 194, 349

Babcock, Marjorie E., 41, 54, 92, 174, 194, 196
Backward children
  inferior social status, 405
  percentage in schools, 403 ff.
Ballard, P. B., 109
Baller, Warren R., 241
Bard, Philip, 75, 294
Barker, M. B., 349
Bayley, Nancy, 401
Beam, Lura, 298
Bear, R. M., 458
Beck, S. J., 226
Behavior traits in young children rated in scales, 385
Bell Adjustment Inventory, disadvantages for clinical use, 191

Bennett, Chester C., 450
Bernreuter, R. G., 133, 195, 214, 227
Bernreuter Personality Inventory
  application in selection of nurses, 520
  traits and description, 195
Bernstein, Charles, 254, 350
Berry, Charles S., 419
Berry, R. J. A., 137, 404, 409, 473
Betts, E. A., 457
Binet, A., 109, 112, 137, 254, 393
Binet scale
  advantages of composite scale, 128
  as measure of social capacity, 112
  composite scale compared with other forms, 128
  correlation with Doll's scale, 171
  history, 111, 113
  inadequacy for diagnosis, 139, 240
  modified form results, 117
  new composite scale (Porteus), 124 ff.
  overconfidence in, 230, 243
  values, 112
Binet scale—Goddard revision, 113
Binet scale—Stanford revision
  analysis, 113 ff.
  as basis for diagnosis, 236
  constitution, 114
  correlations with preschool tests, 392
  correlations with Social Ratings Scale, 175
  inadequacy as measure of intelligence, 407
  percentage below 70 I.Q., 117
  tests of abstract ability weighted unduly, 116
Binet scale—Terman-Merrill revision
  analysis of Form L, 119
  choice of test material, 399
  classification of tests, 120
  comparison with old scale, 118
  criticism of, 131 ff.
  improvements, 134
  preschool scale, 395, 399
  results in Hawaii, 123
  standardization samples, 121 ff.
Binet scale—Terman-Merrill revision (*continued*)
  use of nonverbal material, 134
  verbal tests at low levels, 399
Bingham, Walter, 508
Blanton, Margaret, 294, 298
Blanton, Smiley, 294, 298
Blatz, W. E., 81
Blindworm, limited range of relevant stimuli, 94
Bolton, Shaw, 472, 473
Bond, Earl D., 267
Bond, Guy, 457
Boring, E. G., 82, 85, 139
Bousfield, Paul, 506
Bowers, Anna M., 506
Boynton, Paul L., 91, 96, 110, 137
Brain capacity, increase from birth, 409
Brewster, James R., 457
British Mental Deficiency Committee, 237, 246
Bronner, Augusta F., 137, 141, 151, 161, 214, 334, 346, 351, 506
Brooks, F. D., 42, 110, 332, 351
Brotemarkle, R. A., 22
Bruce, A. A., 376
Bryan, W. L., 140
Bühler, Charlotte, 401
Burgess, E. W., 359, 376
  criticism of methods, 361 ff.
  definition of personality, 186
  prognostic tables, 360
  study of parolees, 359
Buros, Oscar K., 131
Burt, Cyril, 133, 134, 137, 278, 307, 308, 311, 313, 318, 319, 351, 404, 405, 419, 508, 510, 536
Burtt, H. E., 536

Cajal, S. R., 69, 71
California Preschool Mental Scale
  advantages and disadvantages, 398
  behavior traits, 386
  classification of test items, 398
  classifying abilities, 387
Campbell, C. Macfie, 243
Cannon, W. B., 75, 85, 294
Carmichael, Leonard, 85
Carney, C. S., 509

Case histories
analysis of causes of delinquency, 335 ff.
general clinic cases, 30 ff.
murder and frustrated social drive, 341 ff.
nonreaders, 424
ordinary report, 555 ff.
psychoanalytic, 491
Cason, Hulsey, 76
Cattell, R. B., 131, 132
Child, C. M., 85
Child guidance
by psychiatrists, 17
function of university clinics, 28
in experimental stage, 540
problems of, 26
training for, 14
Circular response, 63
Allport's description, 65
and conditioning, 84
as basis of learning, 64 ff.
illustrated, 68, 72, 73
in stuttering, 294, 295
parental approval as factor, 291
relation to enuresis, 285
Clark, G. Y., 519
Clark, L. Pierce, 254
Clinic, psychological
and juvenile court, 29
arrangements for examination, 377 ff.
consultative type, 256
illustrative report, 555 ff.
increase of problem cases, 541
limited time for examinations, 164
preventive work, 344
range of activities, 33
schedule of tests, 198
secretary's qualifications, 378
situation, 29
survey of problems, 28
University of Hawaii, 34 ff., 117, 122, 160, 200, 201, 247, 271, 319, 378
University of Pennsylvania, 34 ff.
Clinical psychologist
as diagnostician, 229
attitude to new movements, 546
caution in prediction, 548
co-operation with others, 257
examinations of criminals, 357
Clinical psychologist (*continued*)
experience as validity criterion, 211
general equipment, 551, 560
interneship, 15
limits of function, 22
pressure of work, 379
primary aim in remedial reading, 430
relation to school counseling, 14
relations with delinquent, 552
role of, 9, 26 ff.
scientific caution, 559
service to nonreaders, 422
specialization, 29
status, 48
use of psychoanalytic concepts, 488 ff.
value of Rorschach test to, 225
Clinical psychology
advisory function, 20
and psychiatry, 7 ff.
and social psychology, 2
cases, 7, 30 ff., 271 ff., 335 ff., 341 ff., 424, 555 ff., 491
definition of, 20
meaning of, 1
methods and techniques, 7, 46
relation to experimental psychology, 1, 2
research in, 13
scope of, 3
short-term contacts, 7
training for, 17, 35, 52
Coghill, G. E., 85
Collins, M., 226
Colvin, S. S., 92
Composite Binet scale
advantages, 128
comparison with other forms, 129
standardization, 130
test selection, 124 ff.
Conduct and emotion, 47
Conflicts
at different functional levels, 469, 490
between reality and pleasure principles, 480, 490
Constitutional inferiors
behavior, 260
case histories, 271 ff.
characteristics, 258

Constitutional inferiors (*continued*)
chemico-physical basis, 267
difficulty in placing, 264, 349
disregard of consequences, 260
egocentric personalities, 263
prognosis, 263
regressive type, 268
test performances, 272, 274
Co-ordination, 56
Coriat, I. H., 296
Correlations
Arthur Performance Scale, 211
Doll's Social Maturity Scale, 171
Form and Assembling Test, 200, 216
Healy Picture Completion Test, 200
Kohs Block Design, 216
Leiter Performance Scale, 200, 201
Nurses' Social Rating Scale, 525, 526
of tests with nursing efficiency, 520
Pintner-Paterson Scale, 216
Porteus Maze test, 175 ff., 200, 216
Seguin-Goddard Form Board, 214
Social Ratings Scale, 175, 216
Stanford-Binet retests, 392
Cortex
and inhibition, 42, 75, 77, 147
and sensory judgment, 74
as organ of delayed choice, 77 ff.
control in stuttering, 294
layers of, 472
relations to thalamus, 74
somatic nature of functions, 468, 496
Crime
as social protest, 340
in primitive communities, 355
sentence fixing, 357
Crime lines and time lines, 371 ff.
Criminal
and reformer, 356
parole violation, 359 ff.
personality of individual, 353
realization of penalties, 261
Criminal factors, 362
Criminal records, 358, 368 ff.
Crothers, Bronson, 26, 53

Darsie, M. L., 510
Dashiell, J. F., 330
Davies, Stanley P., 254
Davis, Katherine Bement, 280, 298
Dearborn, Walter F., 137, 451, 457
Defects
memory, 414 ff.
physical, as basis of reading disabilities, 439
relation to backwardness, 406
speech, 293 ff., 406
Delay
ascribed to ego by Freud, 471
synapses as mechanism, 471
Delinquency
a mode of self-expression, 334, 335, 338
and home conditions, 306, 308, 313, 346, 348
and school achievement, 320, 411
and school failure, 319
cases, 31, 32
conditions favoring, 309
contributory factors, 306 ff.
defined, 330
etiological factors, 345
incidence, 320
major factors, 305
multiple causation, 318
preventive program, 353
range of intelligence, 319
relation to feeble-mindedness, 238, 242
relation to school performance, 158
social frustration, 333
Development
Gesell scale of, 396
increase in brain, 409
tempo or rate of, 393, 394, 409
Dewey, Doris, 133, 214, 215, 227
Diagnosis, mental
cost of wrong, 229
criteria, 246 ff.
faulty, 240, 243
information scale in, 183
responsibility for, 239
use of wide range of tests, 208
Dickinson, R. L., 298
Differentiable abilities, 106

Disabilities
causative factors in reading, 428
specific, 414
Discriminative value of tests
as criterion of validity, 201, 210, 212
Spearman's criticism, 133
Woodrow formula, 201
Display, social, 331
Doll, Edgar A., 164, 168, 171, 197, 235, 238, 239, 240, 254, 401
Doll's Social Maturity Scale
as measure of self-help, 168
changes in status of children, 541
description and items, 165 ff.
limitations, 167
relation to Binet, 171 ff.
standardization, 173
value, 170
Dominance
brain hemisphere, 451
eye, 450
Downey Will-Temperament Test, 218
Dream symbolism, 494
Drever, J., 226
Drives
lack of balance in delinquents, 330
list of, 41
organic, 463
regulation of, 470
social, 331
Dubois, Cora, 217, 221
Dullness, mental
and physical defects, 405
effect on character, 412
frequency, 403
incidence in Scotland, 404
ineffective teaching, 322, 405, 412
relation to delinquency, 321, 412
Dunlap, Knight, 506
Durrell, Donald D., 432, 457
Durrell Reading Tests, 432 ff.

Earle, F. M., 508, 516, 536
Ebaugh, F. G., 12
Education
as preparation for life, 544
in relation to intelligence, 89 ff.
limits for feeble-minded, 248
Educational Attainment Scale, 249 ff.
Edwards, A. S., 92
Effect, law of, 65
Ego
description of functions, 463
psychological formulation, 466
relation to reality principle, 464
Egocentric individuals, 263, 275, 324
high rate of parole violation, 360
Élan vital, 477, 488, 497
Embryo, transplantation of parts of, 547
Emotional behavior
analysis, 49
and adequate response, 79 ff.
and planning capacity, 150
anger, 79, 82
fear, 78, 81
in nonreaders, 451
in test situation, 581
reflected in Rorschach test, 223
role of thalamus, 75, 294
unrest as basis of delinquency, 335
Encephalitis
behavior disturbances, 265
special school for cases, 267
Endocrine glands, effects of imbalance of, 265 ff.
Enuresis
diurnal and nocturnal, 286
Gerard's study, 286
Mowrer device for treatment, 290
relationship to delinquency, 289
study of individual, 284
Environment
multiple factors, 354
of backward children, 406
recognition of effect on test scores, 410
See also Nurture
Epilepsy
diagnosis, 269
mental effects, 268
Eroticism, criticism of theory of oral, 491 ff.
Examination
analysis of tests, 386
criticism of illustrative report, 558

Examination (*continued*)
emotional factors, 380
emotional set of child, 410
introduction to, 552
length of period, 384
methods for nonreaders, 426 ff.
of prisoners, 358
of young children, 380 ff.
preliminary arrangements, 377
procedure, 390
psychometric, 379
purpose of, 378
reports, 554
room and material, 382
Examination record
of epileptic girl, 269 ff.
of youthful murderer, 341 ff.
Exner, M. J., 280
Experiences, childhood
importance of, 486
preverbalized, 473, 487
Experimental psychology, relation to clinical, 1, 2

Faber, Marion S., 518
Factor analysis, 106
and weighting of tests, 109
criticism of, 107
values of, 108
Fairbank, Ruth, 243
Fear
as deterrent, 354
of insecurity, 83
relation to adequate response, 81, 504
types and sources of, 502
Feeble-minded
Baller's follow-up study, 241
cost of segregation, 242
diagnosis, 172, 408
foster-home placement, 350
in school and general population, 238
number delinquent, 242
percentage of clinic cases, 118
percentage of delinquents, 320
percentage of school children, 237
raising of level through education, 407
survival, 228
Feeble-mindedness
a permanent condition, 411
Feeble-mindedness (*continued*)
definitions, 243 ff.
heredity, 231 ff.
I.Q. definition, 236 ff.
incidence, 237
social importance, 231
special memories, 419
See also Mental deficiency
Fendrick, Paul, 458
Fenton, Norman, 54, 307, 347
Ferguson Form Boards, 151, 214
Fernald, G., 150
Fernald, W. E., 237, 254
Fixations, child-parent, 489
Flanagan, John C., 134, 195
Fletcher, J. M., 296, 297
Forbes, Alexander, 85
Form and Assembling Test (Porteus)
correlations, 200, 216
description, 206
scoring and standardization, 207
use in selecting nurses, 520
value in mental diagnosis, 218
Form boards
in Pintner-Paterson Scale, 147
overweighted in Arthur scale, 209
Foster, J. C., 138, 402
Foster-home placement
of constitutional inferior, 264, 349
of delinquents, 346, 348
of feeble-minded, 350
of stutterers, 297
Frank, J. D., 536
Franz, S. I., 77, 97, 98, 197
Freeman, F. N., 102, 110, 234, 395
Freud, Sigmund, 112, 287, 298, 461, 463, 464, 465, 466, 471, 476, 486, 487, 506
Freudian theories
anatomy of the mind, 462 ff.
attitude towards, 484
main concepts, 476
proof of scientific validity, 484
Fromm, Erich, 482, 483
Frustration, social, 333, 469
Fryer, D., 509
Furfey, Paul H., 197, 420
Furfey's scale of developmental age, 194

Galton, Sir Francis, 417
Garrett, Henry E., 52, 106, 110, 212, 327
Gates, Arthur I., 434, 450, 458
Gates Reading Diagnostic Tests, 434, 435
Gaw, Frances, 226
Gaw Performance Scale, 213
Gerard, Margaret W., 287
Gesell, Arnold, 297, 401, 402
Gesell scale for preschool children, 395, 396
  arranged as age scale, 396
  relation to Kuhlmann test, 401
Gilbert, J. A., 140
Glueck, Eleanor, 307, 308, 320, 351, 361, 362, 376
Glueck, S. Sheldon, 307, 308, 320, 351, 361, 362, 376
Goal of human development, 103
Goddard, H. H., 113, 137, 214, 230, 237, 239, 254, 351, 402
Goddard Adaptation Board, 145, 146
Goddard (Seguin) Form Board, 144, 209
  correlations, 175, 214
  description, 213 ff.
  use in California Preschool Scale, 399
  value as test, 214
Goodenough, F. L., 122, 134, 160, 303, 402
Goodenough Drawing Test, 159, 160
Goodman, Sylvia E., 288, 289
Gordon, Kate, 77, 97, 98, 197
Goring, Charles, 376
Gray, William S., 458
Gray Oral Reading Check Test, 427, 435

Habbe, Stephen, 519
Haines survey of mental deficiency, 237
Hall, G. Stanley, 486
Hamilton, G. V., 298
Harno, A. J., 376
Hart, Bernard, 506
Hart, Hornell, 376
Hartshorne, Hugh, 197, 351
Health
  importance of symptoms, 558
  state at examination, 389
Healy, William, 41, 65, 141, 150, 226, 231, 262, 298, 307, 320, 324, 334, 335, 338, 345, 346, 349, 350, 351, 376, 492, 506
Healy Picture Completion Test
  correlation with Leiter test, 200
  description, 161
  factor analysis in, 108
  in Arthur scale, 209
  in Pintner-Patterson Scale, 145, 146
  interpretation of results, 162
Herd, Henry, 162, 254
Heredity
  and environment, 43, 301
  field report, 232 ff.
  later views, 234
  of feeble-minded, 231 ff.
Herrick, Charles J., 85
Herrick, Colin J., 182, 421
Herring, J. P., 402
Hertz, Marguerite R., 227
Highlander, M., 298
Hildreth, Gertrude, 458
Hirsch, N. D. M., 288, 307, 319, 320, 351
Hollingworth, Harry L., 506, 536
Hollingworth, Leta A., 278, 420
Holt, E. B., 506
Holt, L. Emmett, 286
Holzinger, K. J., 234
Honzik, Marjorie P., 391, 392
Horney, Karen, 54, 461, 506
Howland, John, 286
Hubbard, Ruth M., 54
Hull, Clark L., 536
Humane measures in treatment of social offenders, 356, 357
Hunt, T., 506, 536
Hunter, Mary, 222, 227, 377

Id
  and brain functions, 468
  Freud's description, 462
  psychological identification, 467
Ide, G. C., 402
Impulsiveness, characteristic of moral defective, 258
Imus, Henry A., 458
Index of criminality
  illustrative applications, 368 ff.
  interpretive limits, 368
  items and scoring, 364 ff.
  value and use, 363

Infant training, 544
Infantile experiences
  emphasis on, 486
  of psychoneurotics, 478
  sexual, 477, 491
  specific memories, 491
Ingram, Christine P., 420
Inhibition
  and intelligence, 42
  function of superego, 470
  in enuresis, 285
  social, 41, 389
Insanity types detected by Rorschach, 223
Insecurity
  consequences of, 504
  symptoms in child, 504
  types of, 502
Insight, 20
  and social diagnosis, 40
  as art, 48
Inskeep, Annie D., 420
Instinct
  description of fundamental tendency, 58, 90, 467, 496
  Müller theory of, 60
  relation to Freudian id, 467
Intelligence
  abstract, 95, 97 ff.
  and progress in education, 90
  definitions, 87 ff.
  distribution in Australia and California, 403 ff.
  essentials of, 102
  general nature, 103, 395
  importance to therapy, 46
  kinds of, 95
  mechanical, 95, 97 ff.
  not tested in young child, 393
  relation to inhibition, 42
  relation to Rorschach results, 222
  relation to vocational success, 509
  social, 95, 97 ff.
  specific and general factors, 105
  Stern's definitions, 92, 393
  symposium on, 91
  Terman's definition, 116
  two-factor theory, 97, 104
Intelligence quotient, *see* Quotient
Interest, a factor in vocational success, 515
Interview
  attention to critical periods, 44
  controlled, 43, 497
  evaluation of, 503
  nature of psychoanalytic, 497
  psychiatric, 45
  psychological, with prisoners, 358
  symptoms of anxiety, 502
  technique of, 44
  versus trait inventory, 192
Introversion-extroversion, 478
Intuitional approach, 553
Iota Word Test, 427, 432

Jaffa, Adele S., 402
Jastrow, Joseph, 60, 488, 495, 506
Jelliffe, Smith Ely, 489
Jennings, H. S., 85, 547
Jensen, F., 507
Jones, F. Wood, 60, 61, 72, 85, 110
Jones, Harold E., 81, 85, 401
Jones, Mary C., 81, 85, 402
Judgments, verbal, 474
Jung, Carl G., 475, 476, 477 ff., 491, 506
Jung's psychoanalytic theories
  criticism of Freud, 477
  personality types, 479
  racial unconscious, 478
Juvenile delinquents
  cases, 31, 32
  correlation studies, 211
  frustrated social drive, 333
  percentage feeble-minded, 231, 247 ff., 320
  performance in personality tests, 194 ff.
  scores in Arthur scale, 211
  slow adaptation, 195
  test response in Maze, 158
  treatment, 345 ff.
Juvenility phases in America, 540

Kallikak family, 232
Kanner, Leo, 298
Kappers, Arien, 70
Kappers, C. V. A., 85
Karpf, Fay B., 476 ff.
Katz, Daniel, 187, 351
Kawin, E., 132, 397
Keller, F. J., 536
Kelley, T. L., 110

Klopfer, B., 227
Knox Cube Test, 209
Kohs, S. C., 215, 227
Kohs Block Design Test, 209, 215 ff.
Kranefeldt, Wolfgang M., 476
Kuhlmann, F., 138, 198, 402
Kuhlmann revision of Binet scale, 395
  description, 400
  verbal character, 401

Landis, Carney, 82
Landman, J. H., 254
Langfeld, W. S., 82, 85, 139
Language disabilities
  effect on Binet I.Q., 118, 407
  effect on Kuhlmann test results, 401
  factor in performance tests, 199
  in reading tests, 437
  tests for children with, 125 ff., 394
Lanne, William F., 376
Lapage, C. P., 255
Lashley, K. S., 71, 86
Laune, Ferris F., 361, 376
Learning
  laws of, 65
  pathways of, 417 ff.
Learning gradients, 440 ff.
Leary, Daniel B., 506
Left-handedness and reading disability, 450
Leiter, R. G., 200, 227
Leiter Performance Scale
  brief scale scoring, 205
  characteristics, 200
  correlations, 200, 201
  description, 203
  discriminative value, 201, 202
  standardization, 201, 202
Levy, David M., 19, 37, 303, 402
Lewis, E. O., 237
Libido
  extension of meaning, 487
  identified with fundamental urge, 477, 488
  Jung's concept, 477
Link, H. C., 536
Local Information Scale (Porteus)
  items and scoring, 181 ff.
  standardization, 182
  value in mental diagnosis, 183
Lord, Elizabeth, 542
Louttit, C. M., 23, 44, 162, 279, 293, 307, 351
Lowe, Gladys M., 137, 141
Lund, D., 319
Lurie, Walter A., 536
Lynd, Helen, 545
Lynd, Robert S., 545

MacQuarrie, J. W., 142
MacQuarrie Test for Mechanical Ability, norms and description, 142 ff.
Maladjustment
  descriptive terms, 4
  school, 14
  social, of enuretics, 288
  social, of stutterers, 294
  traits in, 4
Malamud, W., 298
Maller character sketches, 194
Manipulative ability tests, 108, 139, 142 ff.
Marshall, Leon, 547
Martin, A. H., 134
Masturbation
  approach to problem, 280
  frequency, 280, 321
  preventive precautions, 284
  remedial measures, 281 ff.
Mateer, Florence, 278
Maturity, social, of young child, 388
Maxfield, F. N., 134, 135, 420
May, Mark A., 197, 332, 351
Maze, *see* Porteus Maze test
McBride, K. E., 155
McDonald, J. F., 313
McDougall, William, 506
McKay, H. D., 307, 313, 352
McNemarr, Quinn, 420
Meehan, M. C., 141
Menninger, Karl A., 493
Mental deficiency
  British committee on, 237, 246
  English legal definition, 244
  I.Q. definition, 236
  incidence in Hawaii, 117
  physical types of, 39
  responsibility for diagnosis, 8, 38
  sociopsychological definition, 246

Mental tests
as introduction to treatment, 347
desiderata, 204
factor analysis in, 108
Goddard Adaptation Board, 146
Healy Picture Completion Test, 146
Healy puzzle box, 150, 151
interpretation of results, 8, 386
Knox Cube Test, 145, 146, 209
presentation to young child, 383
program for future, 135 ff.
relation to nursing efficiency, 519 ff.
results of Army Test, 116, 237
tapping tests, 140, 141
wide range, 106
Merrill, Maud A., 111, 119, 120, 122, 138, 210, 212, 236, 239, 402
Merrill-Palmer Scale
not adequate measure of intelligence, 397, 407
value for young children, 396
Michaels, Joseph J., 288, 289, 299
Millicamp, D. A., 81
Milner, M., 516, 536
Miner, J. B., 231
Minnesota Preschool Scale, 395
advantages and disadvantages, 397
analysis of results, 387
trait classifications, 386
Mitchell, David, 234
Modern artists, parallel with delinquent behavior, 339 ff.
Monroe, Marion, 431, 450, 458
Monroe reading tests, 431 ff.
Montessori methods, 16, 443, 455
Montgomery, R., 163
Moody, Mary W., 143
Moral defective
description, 258
question of heredity, 259
See also Constitutional inferiors
Moreno, J. L., 49, 54
Morgan, John J. B., 278
Morgenthau, H., 161, 162
Morons, defined, 231
Moss, F. A., 506, 536
Nursing Aptitude score, 518
Social Intelligence Scale, 518
Mowrer, H. R., 351
Mowrer, Millie Mae, 290 ff.
Mowrer, O. H., 290 ff.
Muehlenbein, J., 420
Munn, Norman L., 85, 92, 110
Murchison, Carl, 13, 75, 85, 332, 376, 401, 402
Murphy, Gardner, 197, 302, 306, 352, 507
Murphy, Lois B., 197, 302, 306, 352
Murphy, Miles, 34, 35
Myers, C. S., 508, 536
Myerson, Abraham, 255

National Committee for Mental Hygiene, 242
mental age limits of mental defect, 245
National Institute of Industrial Psychology, 516
Nature of child, 301
Negativism, 384
Negroes, average mental age, 237
Neighborhood conditions in delinquency, 311
Nelson, M. J., 303
Nelson, Virginia L., 392, 394
Nerve impulses, conduction of, 69 ff.
Neural canalization, 71 ff.
Neural circuit
alternative, 81
and verbal rehearsals, 72
basis of learning, 66 ff.
disruption of, 76
effect of drugs on, 261, 262
extension of, 472
illustrated, 69, 72, 73
in enuresis, 86, 289
patterns of, 103
realization of effects, 261
Neural pathways, 69, 70
Neural patterns, 472
Neurological basis
of emotion, 294
of Freudian personality theories, 472
of learning, 66 ff.
of psychology, 55
of transfer of training, 71

Neurology
and psychiatry, 15
Cajal's theory of nerve transmission, 69
contractility of nerve processes, 60
functions of striate body, 78
terms adopted from, 55
Neurosis
conflicting analyses, 475
cure a moral problem, 479
in nonreaders, 451
symptoms in children, 389
Nevill, E. N., 134
New York Crime Commission, 319
Newcomb, T. M., 197, 302, 306, 352
Nonverbal tests, *see* Performance tests
Normality and cultural standards, 5
Number work, remedial, 452 ff.
Nurses' Social Rating Scale
basis of scoring, 522
characteristics of good nurse, 523
characteristics of inferior nurse, 524
correlations with efficiency, 525, 526
criterion of selection of students, 528
items, 529 ff.
principles of arrangement, 520 ff.
Nursing efficiency
attempts to predict, 517
measurement of abilities, 520
score limits, 527
value of predictive measures, 518
Nurture
and plasticity, 546
influence on delinquency, 304
strength of, 301

Objective descriptions of behavior, 385
Observations
in nursery schools, 391
of Maze test performance, 156 ff.
of preschool children, 382, 385
O'Connor, Johnson, 536
Odbert, H. S., 4
Oedipus complex, 310, 494, 495
Ohio State University Scale for Nurses, 519
Organic rhythms, 58 ff., 466
effect of obstruction of, 468
sexual, 469
urgency of, 469 ff.
Orton, S. T., 299, 451, 458
Overcrowding, effects of, 311

Palmer, G., 298
Parents
attitude in reading disability, 423
conflict factor in delinquency, 310
disapproval in enuresis, 287 ff.
influences of, 303
re-education of, 347
relations to child in stuttering, 295
Parole success
periods in time lines, 371 ff.
prediction tables, 358 ff.
Paterson, D. G., 162, 536
Pavlov, I. P., 83, 86
Peck, M. W., 280
Pediatricians, 26
Performance tests, 208 ff.
as diagnostic measures, 139 ff., 208
as substitute for Binet, 199
increase in Terman-Merrill, 120
proportion in Binet scales, 119
results in Hawaii, 124
significance in vocational guidance, 516
verbal content, 134
Perseverative tendency, 467
tests of, 195
Personality
anatomy of, 466
and conflicts, 42
and social intelligence, 101
as style of response, 187
defects of, 148
definitions, 185 ff.
description of desirable, 42
development of, 548
disharmony of, in enuretics, 292
expressive traits of, 190
integration of, 56
intrusion on child's, 539 ff.

Personality (*continued*)
questionnaires, 191 ff.
stabilized, 407
structuring, 559
testing, 50, 194
total, 480
types of, 479
Piotrowski, Z., 223
Pintner, R., 104, 110, 146, 162, 510
Pintner School Opinion Test, 194
Pintner-Paterson Scale, 209, 213
criticism, 146
correlations, 216
description, 144 ff.
factor analysis of, 108
Planning
ball and field test, 150
basis of definition of mental defect, 149
importance of, 147 ff.
difficulty in testing, 49
Healy puzzle box, 150, 151
Plant, James S., 197, 539, 544, 549, 550, 553
Plasticity, limits of, 546 ff.
Play techniques, 37
Popenoe's survey of mental deficiency, 237
Porteus, S. D., 41, 54, 60, 61, 72, 85, 92, 110, 133, 137, 138, 162, 163, 173, 175, 176, 196, 197, 214, 217, 227, 245, 255, 404, 409, 417
Porteus Maze test, 154
advantages, 155, 156
as test of planning, 152
correlations, 175 ff., 200, 216
factor analysis, 108
included in Arthur scale, 209
interpretation of results, 158
quality of performance, 156
standardization, 155
style of personality shown, 188
use in selecting nurses, 520
validity, 175
width of application, 198
Poull, L. E., 163
Practical ability
and mental diagnosis, 184
as division of intelligence, 95
importance, 96
proportion of tests in new composite scale, 128, 129
Predictions
educational, 512
success in mechanical work, 512
Preschool children, 30
play techniques, 37
scales for, 395
Preschool tests
Anderson's criticism, 393
inadequacies, 409
not dependable as predictive measures, 409
value of, 391
See also California Preschool Mental Scale, Gesell scale, *and* Merrill-Palmer Scale
Pressey, S. L., 420
Primitive peoples
achieving rapport with, 531
auditory rote memory inferior, 417
respect for law and custom, 355
response to tests, 153
visual training of, 416
Prince, Morton, 186
Probation officer, relation to psychologist, 27
Problem children, summary of treatment, 348 ff.
Progressive schools
against authoritarian attitude, 541
as vitalized education, 543
children's manners, 542
formal instruction, 412
objectives, 413
Projection, 489
Psychiatrist
case load in clinic, 20
co-operation with psychologist, 15, 16, 22
criticism of psychoanalysis, 461
interpretation of mental tests, 243
principles in child guidance, 540
relation to patient, 550
role of, 9
training of, 12, 15
unwarranted claims, 17
Psychiatry
intensive treatment, 7
length of treatment, 19, 25, 38
overworked terms, 57
relation to clinical psychology, 8

Psychoanalysis
and intelligence of subject, 47
dangers of child, 37
explanation of stuttering, 296
Oedipus complex, 310, 494, 495
plausible analogies, 491, 493
schools, 475 ff.
significant contributions, 485 ff., 490
sublimation, 61, 495
theories and enuresis, 287
treatment of enuresis, 290
unscientific assumptions, 460
value of formulations, 462
Psychoeducational clinic, 29
Psychological analysis
direction of interview, 497
examples of, 498 ff.
introduction to, 500 ff.
Psychology
abnormal, 5, 6, 223
analytical, of Jung, 475
dynamic relationship of Rank, 475
experimental, 1, 2
individual, of Adler, 476
Punishment
feature of penal treatment, 354
ideal balance, 356
of children, 355

Qualitative response
in California Preschool Scale, 398
in Porteus Maze test, 156
Quotient, intelligence
changes, normal, 408
constancy, 407
improvement in foster homes, 406
limits for clerical work, 410
limits for college success, 510
not a diagnosis, 380
of children in Hawaii, 247
variation in retests, 392

Racial differences
in Goodenough Drawing Test, 159
in Leiter scale results, 202
in MacQuarrie test, 143
Rademacher, E. S., 23
Rank, Otto, 475, 481 ff., 498
Rank's psychoanalytic system
distinctions from other schools, 481
inconsistency of statements, 483
relation to Fascist philosophy, 483
will concept, 481
Rappaport, M., 349
Rapport
attainment of, 549
importance for therapy, 283
in reading tests, 437
meaning of, 192
unfavorable conditions for, 347
Rationalization, 488
Reactions, preverbalized, 474
Reading
diagnosis of deficiency, 422
left-eye dominance, 451
opportunity for diagnostic study, 440
phonic method of teaching, 418, 447
readiness for, 388
results of wrong diagnosis, 424
visual methods of teaching, 418
word-building exercises, 447 ff.
Reading difficulty, 413, 421
Reading disabilities, 421 ff.
Reading material, 444 ff.
Reading tests
analytic, 427, 430 ff.
Gates, 434 ff.
informal, 436
Monroe, 431 ff.
standardization, 435
Reinhardt, James M., 352
Rejection, parental, 288
Relevancy
and conditioning, 83
changes in, 79, 83
of social stimuli, 100
related to organic rhythms, 469 ff.
relation to adequate response, 81
Relevant stimuli
and circular response, 63
and emotion, 78 ff.
and laws of learning, 63
chief types of, 95, 101
description of, 61
increase of range of, 88 ff.

Remedial teaching
attention to, 413
of arithmetic, 452 ff.
of reading, 323, 418, 438 ff.
of writing, 456 ff.
prediction of results, 430
relation to delinquency, 323
Repression
Freudian, 471, 477
sexual, 493
Response, adequate
relation to emotions, 81
Response, conditioned
correlation of neural circuits through, 103
fear or dislike of individuals, 474
in Mowrer treatment of enuresis, 291
mechanism of, 83
Retests
interpretation of, 409
practice effects of, 391
reasons for variation of, 393
Reynolds, M. M., 303
Rhinehart, Jessie B., 518, 519
Richards, T. W., 392, 394
Ritualization, social
importance in behavior, 541
in clinic relationships, 552 ff.
instinctive in animals, 542
value in conduct, 543
Roback, A. A., 197
Robbins, Samuel D., 296
Roe, Annie, 155
Rogers, Carl R., 23, 193, 197, 258, 348, 349, 352
Rome State School
application of Social Ratings Scale, 176
home placement of feebleminded, 350
Rorschach, H., 227
Rorschach test
and abnormal states, 223
as personality test, 218
brief description, 51
classification of responses, 220 ff.
difficulties of application, 221
relation to intelligence, 222, 224
tests apperception, 219
value in clinical use, 225
Rosanoff, A., 42
Rothney, J. W. M., 458
Rural areas, percentage of backward children in, 404
Rust, Metta M., 384
Ryan, W. Carson, 542, 545

Sachs, Bernard, 507
Sanders, B. S., 376
Sayles, Mary B., 278, 280
"Scattering" as psychopathic symptom, 269
Schanck, Richard L., 187, 351
Schiedemann, Norma V., 278
Schieffelin, Barbara, 138
Schneck, M. R., 212
School
and clinic, 35, 36
effects of retardation in, 412, 451
Lynds' description of routine, 545
progressive, 412, 541 ff.
responsibility for poor achievement, 322
School achievement and delinquency, 320, 411
School discipline and delinquency, 319
School problems
promotion plans, 412
reports by clinics, 30, 31, 427
School progress and memory, 415
School situation and stuttering, 297
Schwesinger, Gladys C., 138
Seguin, Edward, 213, 255
Seguin-Goddard Form Board, 144, 175, 209, 213 ff., 399
Self-indulgence
as basis for stealing, 334
feature in delinquent, 324, 327 ff.
Self-indulgence Test, 325 ff.
Sex
Freudian overemphasis, 460, 469, 477, 493
oral-erotic and anal-erotic stages, 491 ff.
regulation of drive by society, 470
Sex education
and delinquency, 313 ff.
relation to masturbation, 281

Shaffer, L. F., 23, 84, 110, 197, 332, 351, 352, 484, 507
definition of personality, 186
on conditioning, 84
Shaw, Clifford R., 307, 312, 313, 352
Sherrington, C. S, 86
Shimberg, Myra E., 141
Simon, T., 109, 137, 254
Slawson, J., 307, 320
Slessinger, Donald, 17
Smith, Geddes, 23
Social competence
and social independence, 169
Doll's description of, 168
Social history
outline for boys, 317 ff.
outline for girls, 315 ff.
Social intelligence, 95, 97 ff.
constitutional basis of, 190
importance of, 96
inhibition as aspect of, 147
part of personality, 186
Social psychology, relation to clinical, 2
Social Ratings Scale
as validity criterion for tests, 154, 212
correlations, 175, 216
for nurses, 529 ff.
measure of social insufficiency, 174
traits of, 177 ff.
validity, 176
Social restraints, 331
Social worker
family consultation service, 256
influenced by Rankian theories, 483
relations to psychologist, 26
Sociometric approach, 49
South, E. B., 519
Spatial relationships, importance in intelligence, 209
Spearman, Charles E., 97, 105, 110, 131, 133, 210
Speech
and rehearsals of action, 149
as defensive mechanism, 99
defects in, 293 ff., 406
relation to social intelligence, 189
Speed tests
not useful for mental diagnosis, 217
unfair to young children, 397
Speer, G. S., 196
Spemann, H., 547
Stackman, Harvey, 162
Standardization
Doll's Social Maturity Scale, 173
Form and Assembling Test, 207
Healy Picture Completion Test II, 161
Leiter Performance Scale, 201, 202
MacQuarrie Test for Mechanical Ability, 143
Maze test, 155
Range of Local Information Scale, 182
reading tests, 435
tapping test, 140, 141
Stanford-Binet scale, *see* Binet scale
Statistics
in clinical psychology, 108
in criminology, 362
value to clinical psychology, 52
Stenquist, J. L., 163
Stenquist Assembly Test, 147
Stephenson Perseveration Test, 195
Stern, W., 92, 393
Stevenson, George S., 17, 23
Striate body, functions of, 78
Strong, Edward K., 513, 514, 515, 536, 537
Stutsman, Rachel, 385, 402
Stuttering
educational segregation, 297
incidence, 293
neurological explanation, 294
relation to intelligence, 293
theory of cerebral dominance, 295
Subconscious activities, 485
Sublimation
defined by Jastrow, 415
diversion of effort, 497
no higher nor lower functions, 496
Suggestibility of young children, 300

Superego
genesis, 465
judicial functions, 464
not structural entity, 487
reflects racial traditions, 466
Sweet, Lennig, 197
Sweet Personal Attitudes Test, 194
Symonds, P. M., 54, 196, 197, 352

Taylor, Earl A., 459
Taylor, W. S., 507
Temperament
Allport's definition, 190
and planning capacity, 150
defined, 148, 190
introverted response in Rorschach test, 224
Terman, Lewis M., 91, 111, 112, 113, 116, 119, 120, 122, 138, 210, 212, 236, 237, 239, 402
Thalamus
and emotions, 75, 294
functions of, 74 ff.
Therapy
and intelligence, 46
constructive, in analysis, 479, 481
measures in masturbation, 282
play, 37 ff.
training of social workers, 257
Thom, Douglas A., 278
Thomas, W. I., 41, 54, 82
Thompson, Helen, 402
Thomson, G. W., 107
Thorndike, E. L., 110, 512, 537
classes of intelligence, 95
law of effect, 64, 65
on educational prediction, 511
on nature of intelligence, 103
vocational prediction, 512, 513
work in vocational guidance, 508
Thorndike, Robert C., 420
Thrasher, F. M., 352
Thurstone, L. L., 106, 196, 511
personality schedule, 196
test of college aptitude, 511
Thymic involution
behavior of subinvoluted type, 268
effects of, 265
Thyroid cases, 265, 268
Timme, Walter, 265, 268
Tinker, M. A., 459
Toops, Herbert A., 508, 537
Training of child, typical periods of, 302
Transference, 490, 501
Travis, Lee E., 292, 295, 299
Tredgold, A. F., 39, 244, 245, 255, 258, 259, 260, 263, 266
biological definition of mental deficiency, 244, 245
description of moral defective, 258 ff.
on effects of *encephalitis lethargica*, 266
Tulchin, S. H., 303, 402

Unconscious, the
an inferential concept, 477
as unverbalized experience, 473
identified with id, 463
no neural mechanism, 490
University of Hawaii Psychological Clinic
Binet test results for racial groups, 117
changes in Binet I.Q. level of cases, 122
classification of cases, 34 ff.
examination of delinquents, 247, 319
Goodenough correlations, 160
illustrative cases, 271 ff.
practice, 378
results with Leiter test, 200, 201
University of Pennsylvania Psychological Clinic, classification of cases, 34 ff.

Validity of tests
agreement with other tests as criterion, 212
college aptitude (Thurstone), 511
Maze, 212 ff.
scanty evidence, 211
Van Wagener, M. J., 402
Van Waters, Miriam, 352
Verbal rehearsal, 72, 73
and delayed choice, 472
dropped from response, 473
mechanism of, 89
Verbal tests
in composite Binet, 128 ff.
in Binet scale, 113, 120, 407
undue importance of, 394

Vernon, P. E., 131, 227
Vineland Social Maturity Scale, *see* Doll's Social Maturity Scale
Vineland Training School
  definition of moronity, 235
  introduction of Binet, 230
  studies at, 170, 174 ff., 213 ff.
  treatment of constitutional inferior, 264
Violation of parole, 359, 361
Vision, importance of testing, 450
Visual instruction
  basic exercises in reading, 444
  methods, 418, 441, 443 ff.
Visual learning in primitive people, 416
Viteles, M. S., 508, 536, 537
Vocational guidance and counseling
  and clinical psychology, 508
  claims for, 508
  educational prediction, 511
  significance of tests, 516
  value of, 513
Vocational Interest Blank (Strong), 513, 514
Vold, George B., 361, 362, 376

Walker, Robert Y., 459
Wallin, J. E. W., 23, 54, 163, 255, 293, 299, 352, 402, 420
Washburn, M. F., 86
Watson, J. B., 474, 487
Weisenburg, Theodore H., 155
Weld, H. P., 82, 85, 139
Wellman, Beth L., 406, 410
Wells, F. L., 54, 131, 132, 144, 163, 214, 278, 280
Westburgh, Edward M., 24, 208
Whipple, Guy M., 141, 163, 420
White, William A., 24
Wildenskov, H. O., 163
Woodworth, R. S., 110, 333, 459, 507
  description of personality, 187
  on inherent social mechanisms, 333
Woodworth Psychoneurotic Inventory, 195, 196
Writing
  basic exercises, 456
  teaching material, 455

Yerkes, R. M., 138
Young, Kimball, 64
Young, Pauline V., 44
Young, Robert A., 451

Zachry, Caroline B., 24
Znaniecki, F., 82
Zorbaugh, Harvey, 352

~~SCIENCE ROOM~~ COLLEGE LIBRARY

Date Due

Psy 417 (517)			
Psy 417 (517)			
MAR 1 2 '51	AUG 1 3 '51		
AUG 1 4 '51	AUG 1 3 '51		
FEB FEB 4 1955			
F OCT 21 '55	FEB 1 9 '56		
OCT 30 1957			
MAY 16 '56	MAY 1 2 '66		

151.2
P843p
C.3

The practice of clinical psych main
151.2P843p C.3

3 1262 03166 7131